ISRA2025

ISRAELI RADIOLOGICAL ASSOCIATION

ANNUAL MEETING

DIGITAL BOOK

26-28 OCT. 2025

ISRA2025

Sunday, 26 October 2025

HALL BC

10:30 - 11:00	**Registration opens, gathering, ePoster Viewing & Professional Exhibition**
11:00 - 13:10	**Plenary Session 1: Opening , RADS update - Bridging Imaging and Clinical Care** **Chairs: Prof. Ilan Shelef, Prof. Orly Goitein**
11:00 - 11:10	Opening Remarks **Prof. Ilan Shelef, Prof. Orly Goitein**
11:10 - 11:30	LI RADS & background **Dr. Shlomit Tamir**
11:30 - 11:50	BI RADS update **Dr. Noam Nissan**
11:50 - 12:10	PI RADS **Dr. Naama Lev Cohain**
12:10 - 12:30	VI RADS, Bladder cancer staging **Dr. Orith Portnoy**
12:30 - 12:50	TI RADS - categories, scores, and recommendations. Suggestions for ultrasound practice in Israel **Dr. Eduardo Bancovsky**
12:50 - 13:10	NI RADS in imaging surveillance of head and neck malignancies. **Dr. Ayelet Eran**
13:10 - 14:00	**Lunch, ePoster Viewing & Professional Exhibition**

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Sunday, 26 October 2025

14:00-15:30	**Plenary Session 2: Sponsored Sessions** **Chairs: Prof. Galit Aviram, Prof. Diana Gaitini**
14:00 - 14:30 AstraZeneca	Early detection of lung cancer- a national mission **Dr. Ariel Rokach**
14:30 - 15:00 Tzamal Medical Group Patient is Our Care	Clinical high field 5T MRI **Prof. Jacob Sosna**
15:00 - 15:30 SIEMENS Healthineers	Photon counting CT - technology basics & intial experience **Prof. Noam Tau**
15:30 - 16:20	**Plenary Session 3: La Prima Volta** **Chairs: Dr. Alla Khashper, Dr. Osnat Konen**
15:30 - 15:37	THE ILLUSION OF FREE AIR: ABDOMINAL PAIN POST LAPAROSCOPIC POVH REPAIR | **Wasim Darawsha**
15:37 - 15:44	TUMEFACTIVE DEMYELINATING LESION MIMICKING HIGH-GRADE GLIOMA: A DIAGNOSTIC PITFALL **Anna Barenbaum**
15:44 - 15:51	WHEN THE CONDUIT TURNS AGAINST ITSELF: A RARE SURGICAL COMPLICATION | **Santana Oznovich**
15:51 - 15:58	GROIN SWELLING IN PREGNANT WOMEN: ROUND IGAMENT VARICOSITIES MIMICKING INGUINAL HERNIA-CASE SERIES AND DIFFERENTIAL DIAGNOSIS **Rafail Danilov**
15:58 - 16:05	RIGHT VENTRICLE PAPILLARY MUSCLE RUPTURE IN NON-ECG GATED CT | **Ahmed Salhab**
16:05 - 16:12	AORTIC DISSECTION IN PREGNANCY **Mohammad Dawud**
16:12 - 16:19	ONE SNEAKY TROUBLE-MAKER - A CASE OF TUMOR-IN DUCED OSTEOMALACIA DIAGNOSED BY 68GA-DOTATATE PET-CT | **Elinor Kalderon**

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Sunday, 26 October 2025

HALL BC

16:20 - 16:40	**Coffee break, ePoster Viewing & Professional Exhibition**
16:40 - 18:20	**Parallel Session 4: Pediatric Imaging** **Chairs: Dr. Ruth Cytter Kuint, Dr. Lital Pratt**
16:40 - 17:00	Fetal MRI | **Prof. Chen Hoffmann**
17:00 - 17:09	TORSION AS A RARE COMPLICATION OF CONGENITAL SPLEEN ANOMALY- DIAGNOSTIC OPPORTUNITIES. THREE CASE REPORTS | **Nadiia Rokytska**
17:09 - 17:18	HOW DO I DIAGNOSE PEDIATRIC PATIENT`S SKULL LANGERHANS CELL HISTIOCYTOSIS LESIONS? **Anat Ilivitzki**
17:18 - 17:27	DIAGNOSTIC AND MANAGEMENT CHALLENGES IN DICER1-ASSOCIATED PLEUROPULMONARY BLASTOMA: A CLINICAL CASE SERIES | **Anat Ilivitzki**
17:27 - 17:36	QUANTIFICATION OF ADIPOSE TISSUE COMPARTMENTS IN SMALL-FOR-GESTATIONAL-AGE FETUSES WITH FAT-WATER MAGNETIC RESONANCE IMAGING **Bar Neeman**
17:36 - 17:45	TEN-YEAR EXPERIENCE WITH ULTRA-FAST MRI FOR PEDIATRIC APPENDICITIS: RADIATION-FREE ALTERNATIVE TO CT IN CHILDREN WITH EQUIVOCAL ULTRASOUND FINDINGS **Ariel Rauchwerger**
17:45 - 17:54	COMPARATIVE STUDY OF RADIATION DOSE LEVELS IN CT SCANS USING SIEMENS NAEOTOM ALPHA VS. GE AND PHILIPS SYSTEMS | **Nadav Singer**
17:54 - 18:03	THE ANATOMICAL ADVANTAG: CT RADIOMICS IMPROVE OUTCOME PREDICTION BEYOND STANDARD CLINICAL-PET AND PET RADIOMICS IN PEDIATRIC HODGKIN LYMPHOMA | **Lama Ibrahim**

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Sunday, 26 October 2025

HALL A

16:20 - 16:40	**Coffee break, ePoster Viewing & Professional Exhibition**
16:40 - 18:20	**Parallel Session 5: Cardiothoracic Imaging Chairs: Dr. Tamar Shalmon, Dr. Osnat Rahav-Moreh**
16:40 - 17:00	CT Imaging of the Left Atrium **Prof. Galit Aviram**
17:00 - 17:09	THE UTILITY OF PRE-TAVI (TRANSAORTIC VALVE IMPLANTATION) CT FOR DETECTION OF INTESTINAL ANGIODYSPLASIA IN AORTIC STENOSIS PATIENTS **Maria Spector**
17:09 - 17:18	CT-DERIVED FEMORAL CHARACTERISTICS FOR PREDICTION OF VASCULAR COMPLICATIONS FOLLOWING TRANSFEMORAL TAVI **Munir Artul**
17:18 - 17:27	REDUCING UNNECESSARY CHEST X-RAYS: PERFORMANCE OF A STREAMLINED DECISION RULE IN NON-TRAUMATIC CHEST PAIN **Tomer Krutik**
17:27 - 17:36	HUMAN–AI INTERACTION FOR IMPROVED DIAGNOSIS OF PULMONARY EMBOLISM **Yehonatan Bar Moshe**
17:36 - 17:45	AI ALERTS IN CHEST X-RAYS: BETTER DETECTION, MORE CONFIDENCE, COMMUNICATION STILL COUNTS **Michal Shachnovitch**
17:45 - 17:54	ENHERTU (TRASTUZUMAB DERUXTECAN) INDUCED PNEUMONITIS AS A LETHAL ADVERSE EVENT – A SINGLE-CENTER REAL-WORLD OBSERVATIONAL STUDY **Yael Eshet**

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Sunday, 26 October 2025

HALL E

16:20 - 16:40	**Coffee break, ePoster Viewing & Professional Exhibition**
16:40 - 18:20	**Parallel Session 6: Innovation Chairs: Prof. Eli Konen, Dr. Rotem Sivan**
16:40 - 16:49	SIMPLIFYING RADIOLOGICAL LANGUAGE: THE ROLE OF LLMS IN PATIENT-CENTERED REPORTING: SYSTEMATIC REVIEW **Yaara Artsi**
16:49 - 16:58	AGENT-BASED UNCERTAINTY AWARENESS IMPROVES AUTOMATED RADIOLOGY REPORT LABELING WITH AN OPEN-SOURCE LARGE LANGUAGE MODEL **Moti Freiman**
16:58 - 17:07	PHYSICALLY-PRIMED AI-ENHANCED IVIM ANALYSIS OF PLACENTAL DIFFUSION-WEIGHTED MRI REVEALS FUNCTIONAL DIFFERENCES IN LGA PREGNANCIES ASSOCIATED WITH MATERNAL DIABETES **Moti Freiman**
17:07 - 17:16	VARIABILITY IN CT REFERRAL DATA COMPLETENESS: INSIGHTS FROM THE EU-JUST-CT-PROJECT **Clara Singer**
17:16 - 17:25	COMPREHENSIVE AI SYSTEM FOR AUTOMATED BODY COMPOSITION ASSESSMENT USING L3-LEVEL CT IMAGING: MODEL CREATION AND PERFORMANCE EVALUATION **Hilla Vardi Behar**
17:25 - 17:34	VALUES OF BODY COMPOSITION AT L3 VERTEBRAL LEVEL IN ISRAELI GENERAL POPULATION USING NOVEL AI ALGORITHM **Shlomit Tamir**

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17:34 - 17:43	MBSS-T1: AN AI-BASED MOTION CORRECTION TECHNIQUE FOR ROBUST CARDIAC T1 MAPPING IN BREATH-HOLD AND FREE-BREATHING CONDITIONS - TEST-RETEST REPEATABILITY ASSESSMENT **Moti Freiman**
17:43 - 17:52	DETECTION OF ADRENAL ANOMAOUS FINDINGS IN SPINAL CT IMAGES USING MULTIMODEL GRAPH AGERGATION **Israel Shenkman**
17:52 - 18:01	AI-BASED PREDICTION OF ORGAN AND TUMOR DOSIMETRY IN PRRT USING PRETREATMENT PET/CT **Talia Yeshua**
18:01 - 18:10	THE IMPACT OF ARTIFICIAL INTELLIGENCE ON RADIOLOGICAL REPORT TURNAROUND TIMES AND DIAGNOSTIC ACCURACY **Royi Barnea**

20:30 **Mingling - Music , wine and friends**

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Monday, 27 October 2025

HALL BC

07:30 - 08:00	**Registration Opens, ePoster Viewing & Professional Exhibition**
08:00 - 10:00	**Plenary Session 7: AI Beyond Detection Chairs: Prof. Eli Atar, Dr. Gal Ben Arye**
08:00 - 08:10	Opening **Prof. Ilan Shelef, Prof. Orly Goitein, Dr. Ahuva Grubstein**
08:10 - 08:30	Navigating the AI landscape in medical imaging - A Lecture in memory of Prof. Moshe Graif **Prof. Jacob Sosna**
08:30 - 08:50	AI in real life medicine **Prof. Noa Dagan**
08:50 - 09:10	Ai in radiology: present insights , future horizons **Dr. Moti Freiman**
09:10 - 09:30	AI-Driven ueuroimaging: unlocking new insights in epilepsy and psychiatric disorders **Dr. Sidney Krystal**
09:30 - 10:30	AI - from fun to functional **Mr. Erez Rubinstein**
10:30 - 12:30	Hands on AI workshop - **Registration Mandatory** **Mr. Erez Rubinstein**
12:30 - 13:20	**Lunch, ePoster Viewing & Professional Exhibition**

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Monday, 27 October 2025

HALL BC

13:20 - 15:40 **Plenary Session 8:**
Awards & Annual ISRA Members Meeting
This session will be held in Hebrew
Chairs: Prof. Ilan Shelef, Prof. Orly Goitein

Outstanding Clinician Awards

13:20 - 13:35	Carmel Medical Center **Recipient - Dr. Konstantin Kenigsberg**
13:35 - 13:50	Shaare Zedek Medical Center **Recipient - Dr. Yigal Frank**
13:50 - 14:05	HaEmek Medical Center **Recipient - Dr. Liza Livshits**
14:05 - 14:20	Kaplan Medical Center **Recipient - Dr. Pearl Herskovitz**
14:20 - 15:20	ISRA Members Annual Meeting - Update

ISRA Annual Awards

15:20 - 15:30	Best Teacher Award **Recipient - Dr. Gideon Flusser**
15:30 - 15:40	Honorary Member Award **Recipient - Prof. Michal Marianne Amitai**

15:40 - 16:00 **Coffee Break, ePoster Viewing & Professional Exhibition**

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Monday, 27 October 2025

16:00 - 18:10 — **Parallel Session 9: Body Imaging**
Chairs: Dr. Firas Srour, Dr. Gil Bachar
HALL BC

16:00 - 16:20	AI in clinical routine Radiology **Dr. Maurice Heimer**
16:20 - 16:29	HYDROHEMATOSALPINX IN PELVIC ENDOMETRIOSIS: MRI AND ULTRASOUND DIAGNOSIS WITH SURGICAL CORRELATION **Noy Levy**
16:29 - 16:38	THE ROLE OF PSA DENSITY AND BIOPSY HISTORY IN PREDICTING CLINICALLY SIGNIFICANT PROSTATE CANCER. **Dor Hermann**
16:38 - 16:47	RADIOGRAPHERS' ENGAGEMENT IN PATIENT SAFETY ACROSS ASSUTA MEDICAL CENTERS **Zeev Schnapp**
16:47 - 16:56	A NATIONAL MULTIDISCIPLINARY SURVEY ON THE RADIOLOGY REPORT AND RADIOLOGIST-PHYSICIAN COMMUNICATION **Ran Kedem Mashraki**
16:56 - 17:05	CORONAL DIFFUSION-WEIGHTED IMAGING AS A TIME-EFFICIENT ALTERNATIVE TO AXIAL IMAGING IN MR ENTEROGRAPHY **Dana Brin**
17:05 - 17:14	PRACTICAL ANATOMY IMAGING COURSE: A NEW INTERACTIVE EDUCATION PILOT – PRELIMINARY RESULTS **Yehonatan Bar Moshe**
17:14 - 17:23	AI-GUIDED CT WINDOWING IMPROVES RENAL LESION CONSPICUITY: A MULTI-READER, MULTI-PHASE STUDY **Shaden Ghrayeb**

Monday, 27 October 2025

17:23 - 17:32	THE ROLE OF ULTRASOUND IN BLUNT PANCREATIC TRAUMA IN CHILDREN **Michal Nordkin Elisof**
17:32 - 17:41	THE PERFORMANCE AND VALUE OF CT GASTROGRAPHY AS COMPARED WITH PATHOLOGY IN TNM STAGING AND DIAGNOSIS OF METASTATIC PATTERN FOR LYMPH NODE OF GASTRIC CANCER **Adam Abu Marsa**
17:41 - 17:50	INCORPORATION OF A NOVEL CT MACHINE IN A BUSY HOSPITAL - A TECHNOLOGIST'S PERSPECTIVE **Noam Tau**

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Monday, 27 October 2025

16:00 - 18:10 — **Parallel Session 10: Interventional Radiology**
Chairs: Dr. Ziv Neeman, Dr. Avivit Shoham
HALL A

16:00 - 16:09	EARLY VENOUS ENHANCEMENT ON CT ANGIOGRAPHY IN LOWER-EXTREMITY TRAUMA: ASSOCIATIONS WITH TOURNIQUET USE AND VASCULAR INJURY **Dana Brin**
16:09 - 16:18	ENDOVASCULAR REVASCULARIZATION IN CAROTID SIPHON OCCLUSIONS: INSIGHTS FROM A THREE-YEAR SINGLE-CENTRE STUDY **Natali Cohen**
16:18 - 16:27	PERCUTANEOUS MANAGEMENT OF GALLBLADDER PERFORATION: A RETROSPECTIVE COHORT STUDY **Gil Bachar**
16:27 - 16:36	BALLOON-OCCLUDED TRANSVENOUS OBLITERATION TECHNIQUES IN THE MANAGEMENT OF VARICEAL BLEEDING **Aviv Ben Zvi**
16:36 - 16:45	A RARE CASE OF SELECTIVE BRONCHIAL ARTERY ANEURYSM EMBOLIZATION **Marina Arselia Fradkin**
16:45 - 16:54	TRANSARTERIAL EMBOLIZATION IN CHRONIC MUSCOLOSKELETAL PAIN: THE INFLAMMATION-ANGIOGENESIS COMPLEX **Adam Farkas**
16:54 - 17:03	MAY THURNER COMPRESSION: A DON'T TOUCH LESION IN PELVIC VENOUS DISORDER? **Adam Farkas**

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17:03 - 17:12	RETROGRADE TIBIALIS ANTERIOR ARTERY APPROACH: A SOLUTION FOR MANAGING FEMORAL ARTERY ACCESS COMPLICATIONS **Ariel Rauchwerger**
17:12 - 17:21	ADRENAL VEIN SAMPLING: A RETROSPECTIVE REVIEW OF 80 PATIENTS AT SHAARE ZEDEK MEDICAL CENTER (SZMC) **Talar Silvi Hagopian**
17:21 - 17:30	BLEOMYCIN REVERSIBLE ELECTROPORATION: A POTENTIAL GAME-CHANGER IN VASCULAR MALFORMATIONS CARE **Adam Farkas**

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Monday, 27 October 2025

16:00 - 18:10 — **Parallel Session 11: Breast Imaging** — **HALL E**
Chairs: Dr. Liza Livshits, Dr. Tal Arazi-Kleinmani

16:00 - 16:20	Residual calcifications **Prof. Tamar Sella**
16:20 - 16:40	Dense trail and CEM **Dr. Noam Nissan**
16:40 - 16:49	CONTRAST-ENHANCED MAMMOGRAPHY-GUIDED BREAST BIOPSY: INITIAL INSTITUTIONAL EXPERIENCE **Raz Rotman**
16:49 - 16:58	CORRELATION BETWEEN NIPPLE INVOLVEMENT ON BREAST MRI AND SURGICAL PATHOLOGY, IN BREAST CANCER PATIENTS **Hana Shpitzer**
16:58 - 17:07	HEAD-TO-HEAD COMPARISON OF TWO FDA-APPROVED AI SYSTEMS FOR SCREENING MAMMOGRAPHY **Mor Goldsztein**
17:07 - 17:16	COMPARATIVE PERFORMANCE OF ULTRASOUND AND MRI IN PREDICTING LYMPH NODE INVOLVEMENT IN BREAST CANCER PATIENTS UNDERGOING UPFRONT SURGERY **Riham Imam**
17:16 - 17:25	THE UTILITY OF PREOPERATIVE BREAST MRI IN ADDITION TO CONVENTIONAL IMAGING FOR ASSESSING DISEASE EXTENT AMONG PATIENTS TREATED WITH UPFRONT SURGERY ACROSS DIFFERENT AGE GROUPS **Hanan Drawshe**

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17:25 - 17:34	ASSESSING BREAST MICROCALCIFICATIONS WITH A COMMERCIAL AI SYSTEM IN A DIAGNOSTIC BREAST CENTER **Michal Shachnovitch**
17:34 - 17:43	310.ULTRASOUND GUIDED VACUUM ASSISTED BIOPSY AS A PROBLEM-SOLVING TOOL IN A REFERRAL BREAST CANCER CENTER **Liad Hadad-Canfi**
17:43 - 17:52	INITIAL EXPERIENCE WITH AI IMPLEMENTATION IN A MAMMOGRAPHY PROGRAM: CONCORDANCE WITH RADIOLOGIST ASSESSMENT **Dr. Noam Nissan**

15:40 - 17:40

AstraZeneca

Funded by Astra Zeneca
Early detection of lung cancer - hands on training according with the 20025 Basket Guidelines

SYMPHONIA HALL

next to the dining room

ISRA2025

Monday, 27 October 2025

HALL BC

18:10 - 19:10	**Plenary Session 12: La Prima Volta** **Chairs: Dr. Anat Ilvitzky, Dr. Ilya Volovik**
18:10 - 18:25	Clinical Applications of diffusion imaging **Mr. Pierre Zerbib**
18:25 - 18:32	REBOUND ECTOPIC CERVICAL THYMUS MIMICKING LYMPHOMATOUS INVOLVEMENT IN A PATIENT WITH LYMPHOMA: A DIAGNOSTIC PITFALL **Miri Priss**
18:32 - 18:39	RADIOLOGICAL PATTERNS IN ENCAPSULATING PERITONEAL SCLEROSIS: CASE REPORT. **Aldana Paula Hamermiler**
18:39 - 18:46	THE HEART - NOT A BLACK HOLE IN THE CHEST! **Ariel Shapira**
18:46 - 18:53	PARASITIC BRAIN INFECTION AS THE INITIAL PRESENTATION OF NEWLY DIAGNOSED HIV IN A YOUNG FEMALE PATIENT **Dalia Shahin**
18:53 - 19:00	POPLITEAL VEIN ANEURYSM PRESENTING WITH ACUTE PULMONARY EMBOLISM **Nayef Towafra**
19:00 - 19:07	CERVICAL SPINE HYDATIDOSIS: AN UNCOMMON MANIFESTATION OF ECHINOCOCCOSIS **Sana Maroun**

20:30	**Mingling & Drinks**
21:00	**Comedy Show - Rotem Abuhab**

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Tuesday, 28 October 2025

HALL BC

08:00 - 09:50	**Plenary Session 13: Balancing life: Sleep, strength and biomarkers** **Chairs: Dr. Shlomit Tamir, Dr. Ahuva Grubstein**
08:00 - 08:30	The importance of sleep for public health **Prof. Giora Pillar**
08:30 - 08:50	Sarcopenia - Body positive vs negative **Dr. Natalia Goldberg**
08:50 - 09:10	Imaging biomarkers and radiology based study endpoints in oncology **Prof. Jens Ricke**
09:10 - 09:30	The imapct of exercise training **Prof. Yftach Gepner**
09:30 - 09:50	**Plenary Session 14: To Err is Human** **Chairs: Dr. Ofer Benjaminov, Dr. Ruth Eliahou**
09:30 - 09:40	FEMORAL NERVE ISCHEMIC INJURY AFTER TRANS-ARTERIAL EMBOLIZATION OF TYPE 2 ENDOLEAK FOLLOWING ENDOVASCUALAR AORTIC ANEURYSM REPAIR **Adam Farkas**
09:40 - 09:50	WHEN 10/10 PAIN SPEAKS LOUDER THAN AN INITIAL CT READ **Ofer Benjaminov**

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Tuesday, 28 October 2025

HALL BC

09:50 - 11:00	**Plenary Session 15: La Prima Volta** **Chairs: Dr. Christine Dan Lantsman, Prof. Michal Marianne Amitai**
09:50 - 10:10	CT of the paranasal mucosal disease; what every radiologist should know **Dr. Ruth Eliahou**
10:10 - 10:17	SEPTIC PULMONARY EMBOLI SECONDARY TO LEMIERRE'S SYNDROME: A CASE REPORT HIGHLIGHTING THE RADIOLOGIST'S ROLE IN DIAGNOSIS **Moamin Salama**
10:17 - 10:24	DIRECT HIT: FROM URETHRAL TRAUMA TO DIRECT PUNCTURE **Marius Kassis**
10:24 - 10:31	RADIOLOGIC CLUES TO TRACHEO-LARYNGEAL CLEFT TYPE 4 IN A PRETERM NEONATE **Yasmine Daoud**
10:31 - 10:38	NEONATAL POSTERIOR FOSSA ARTERIOVENOUS MALFORMATION PRESENTING AS FACIAL PALSY: DIAGNOSTIC MIMICRY OF TUMOR **Hadi Abu Harash**
10:38 - 10:45	UNMASKING THE BULL: A RARE CULPRIT BEHIND SPINAL AND ANTERIOR CHEST LESIONS **Jonathan Tihanyi**
10:45 - 10:52	SEEING THE INVISIBLE: PHOTON-COUNTING CT BONE MARROW APPLICATION REVEALS OCCULT METASTASES **Ariel Rauchwerger**
11:00 - 11:30	**Coffee Break, ePoster Viewing & Professional Exhibition**

ISRA2025

Tuesday, 28 October 2025

11:30 - 12:45 — **Parallel Session 16: Musculoskeletal Imaging**
Chairs: Dr. Saher Srour, Dr. Victoria Makarov
HALL BC

11:30 - 11:50	Bone marow imaging **Dr. Gideon Flusser**
11:50 - 12:10	Langerhanse & other histyocytoses **Prof. Nogah Haramati**
12:10 - 12:19	WHOLE-BODY MRI SURVEILLANCE IN LI-FRAUMENI SYNDROME: NINE YEARS EXPERIENCE AT A TERTIARY MEDICAL CENTER **Elinor Kalderon**
12:19 - 12:28	PHOSPHATURIC MESENCHYMAL TUMOR **Hila Yashar**
12:28 - 12:37	THE VALUE OF VACUUM PHENOMENON ON CT OF THE SACROILIAC JOINTS AS A NEGATIVE IMAGING MARKER FOR INLFAMMATORY SACROILIITIS **Moran Manor**
12:37 - 12:46	ACUTE CLINICAL TMJ OSTEOARTHERITIS SYMPTOMS MAY BE LINKED WITH OSTEOLYTIC CHANGES IN TMJ CBCT **Chen Nadler**

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Tuesday, 28 October 2025

11:30 - 13:00 — **Parallel Session 17: Abdominal Imaging**
Chairs: Dr. Anat Zik, Dr. Arnon Makori
HALL A

11:30 - 11:39	CHYLOTHORAX AS THE INITIAL PRESENTATION OF DIFFUSE LARGE B-CELL LYMPHOMA IN AN 86-YEAR-OLD PATIENT: A CASE REPORT | **Andres Kaitzberg**
11:39 - 11:48	CULTURAL COMPETENCE: BARRIERS AND FACILITATORS FOR RADIOGRAPHERS | **Yair Asshael Heiss**
11:48 - 11:57	GALLBLADDER ADENOMYOMATOSIS REVISITED – DOES SIZE MATTER? IS FOLLOW-UP REQUIRED FOR LARGE LESIONS? **Shirley Shechter**
11:57 - 12:06	ACUTE NONTRAUMATIC ADRENAL HEMORRHAGE: ETIOLOGY AND IMAGING FINDINGS IN 16 CASES **Alaa Matani**
12:06 - 12:15	THE EFFECT OF AI-BASED RADIOLOGICAL READING ON RADIOLOGY RESIDENTS IN ONCOLOGY FOLLOW-UP **Mustafa Abu Snineh**
12:15 - 12:24	RADIOLOGICAL DIFFERENTIATION OF APPENDICEAL MUCOCELE FROM ACUTE APPENDICITIS IN ADULTS BY CT **Michael Yarovoy**
12:24 - 12:33	CT GUIDED ABLATION – PRESENTING 13 YEARS OF EXPERIENCE | **Ayelet Wandel**
12:33 - 12:42	COMPUTED TOMOGRAPHY FEATURES OF PELVIC INFLAMMATORY DISEASE CAUSED BY CHLAMYDIA TRACHOMATIS AND NEISSERIA GONORRHOEAE: A RETROSPECTIVE STUDY | **Efrat Gilat**
12:42 - 12:51	ULTRASOUND SHEAR WAVE ELASTOGRAPHY AND SHEAR WAVE DISPERSION: CORRELATION WITH HISTOPATHOLOGICAL CHANGES IN AUTOIMMUNE HEPATITIS PATIENTS | **Alona Umansky**

ISRA2025

Tuesday, 28 October 2025

HALL E

11:30 - 14:00	**Parallel Session 18: Neuro-Imaging** **Chairs: Prof. Tal Sigal, Dr. Ayelet Eran**
11:30 - 12:00	Photon counting CT in neuroimaging **Dr. Noa Ben Harav and Dr. Eli Ben David**
12:00 - 12:30	Top 5 Ai advances for neuroadiologists **Dr. Anat Yahav**
12:30 - 12:50	Alzheimer treatments MRI and ARIA **Dr. Orna Eisenstein**
12:50 - 12:59	OVERLOOKED CLUES: IMAGING PITFALLS AND DIAGNOSTIC DELAYS IN CAROTID CAVERNOUS FISTULAS **Moamin Salama**
12:59 - 13:08	UNMASKING THE ATYPICAL: REVISITING MRI FEATURES OF PRIMARY CNS LYMPHOMA IN IMMUNOCOMPETENT PATIENTS | **Lutof Zreik**
13:08 - 13:17	HIGH-RESOLUTION 3T TOF MRA OF THE OPHTHALMIC ARTERY: CORRELATION WITH AGE-RELATED MACULAR DEGENERATION | **Dana Niry**
13:17 - 13:26	POST-SIALO-CBCT FINDINGS IN PATIENTS WITH SIALOLITH RELATED CHRONIC OBSTRUCTIVE SIALADENITIS **Humphrey Ackam**
13:26 - 13:35	COMPARATIVE ACCURACY OF INFARCT CORE PREDICTION BETWEEN WIDELY USED PERFUSION SOFTWARE PROGRAMS **Noa Ben Harav**
13:35 - 13:44	PRE-OPERATIVE INTRAORAL ULTRASOUND FEATURES OF MALIGNANT ORAL LESIONS: DEVELOPMENT OF A PREDICTIVE SCORING MODEL | **Ragda Abdalla-Aslan**
13:44 - 13:53	CLINICAL AND RADIOLOGICAL PREDICTORS OF INVASIVE FUNGAL SINUSITIS | **Adi Brenner**

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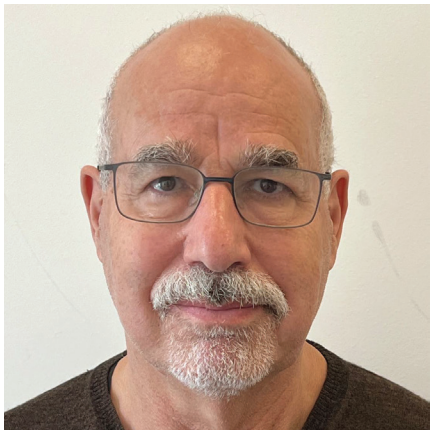
Tuesday, 28 October 2025

HALL BC

14:00 - 14:30	**Plenary Session 19: ISRA Closing Session** **Chairs: Prof. Ilan Shelef, Prof. Orly Goitein**
14:00 - 14:10	Michal Meidan Award **Dr. Rama Katz**
14:10 - 14:20	La Prima Volta Award **Dr. Shlomit Tamir, Dr. Ahuva Grubstein**
14:20 - 14:30	Closing Remarks **Prof. Ilan Shelef, Prof. Orly Goitein**
14:30	**Light Lunch**



Dr. Gideon Flusser

Dr. Gideon Flusser graduated from the Faculty of medicine at the Hebrew university in Jerusalem. He completed his residency at Hadassa hospital in Jerusalem, a Musculoskeletal fellowship at the Montefiore hospital in New York as well as a Body Imaging fellowship at MD Anderson in Houston. He also has a Masters degree in Medical Sciences.

In 1997 he started to work at Ichilov hospital in Tel-Aviv where he founded the MSK imaging unit. Dr. Flusser is one of the first MSK radiologists in Israel and was one of the founders of this field in Israel.

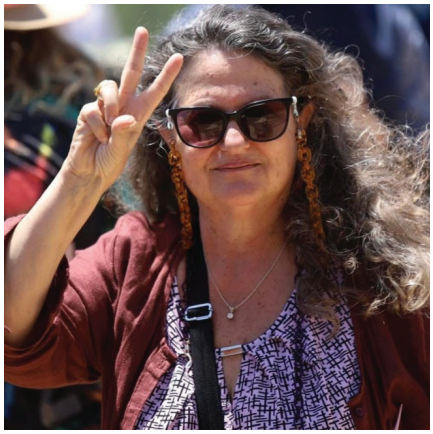
Alongside vast clinical work, teaching and passing his knowledge to residents and students was and still is Gideon's first priority thus creating the next generations of MSK radiologists in Ichilov and Israel.

Besides teaching Gideon's two main areas of expertise are Oncology and Rheumatology imaging. In these two fields Gideon's knowledge helped prompt and accurate diagnosis as well as optimal treatment.

We wish Gideon all the best for his retirement, We are extremely happy that he stays with us part-time and hope that he will now have even more time for his other hobbies – classical music and photography.

ISRA2025

AWARDS



Michal Marianne Amitai M.D.

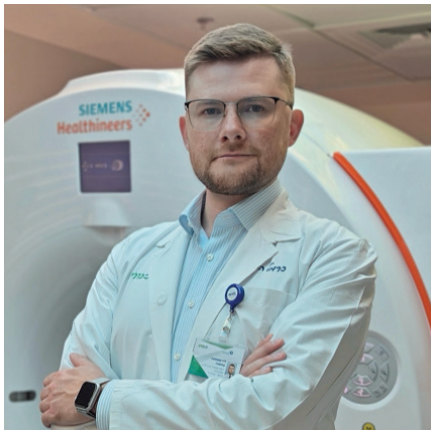
מיכל מריאן אמיתי נולדה בפריז ועלתה לארץ ישראל בגיל 7 . התחנכה בבי"ס אליאנס ברמת אביב,
שרתה בצבא כמדריכת חובשים בחוליה הארצית להדרכת חובשים.
החלה לימודי רפואה באיטליה ובהמשך השלימה באוניברסיטת תל אביב.
בשנים 1989-1994 בצעה התמחות ברדיולוגיה ב"שיבא", והמשיכה שם כמומחית בדימות.
בשנים 1999-2001 בצעה התמחות עמיתים ב- Cross sectional Abdominal Imaging
- University Health Network - University of Toronto
אחריהן חזרה ל"שיבא" כרופאה בכירה.
בשנת 2011 מונתה כמנהלת שירות CT באגף הדימות ב"שיבא."
פרופ' אמיתי הייתה מראשוני העוסקים בהטמעת Virtual Colonoscopy , MRI
בהריון, ובדיקות MRE בארץ.
חלוצה בשילוב מחקרי וקליני של AI בדימות בטן – בשיתוף הפקולטה להנדסה
והחוג לביו-הנדסה באוניברסיטת תל אביב.
הדריכה וחינכה דורות רבים של רדיולוגים שעושים כיום חייל בבתי חולים רבים
בארץ וברחבי העולם.
במהלך שנות עשייתה הפורייה כתבה והייתה שותפה לפירסומן של למעלה
מ-112 עבודות בספרות המקצועית בארץ ובחו"ל.
כמו כן הציגה וייצגה בכבוד את ישראל בעשרות כנסים מקצועיים בישראל ובעולם.
קבלה מינוי אקדמי של פרופ' מן המניין ב- 2024.

פרופ' מיכל אמיתי תרמה תרומה גדולה וחשובה במשך 20 שנה לפעילות האיגוד
הרדיולוגי הישראלי הן כחברת ועד האיגוד והן כחברה בוועדה המדעית, כמו גם
השתתפות בפעילויות בינלאומיות של האיגוד בחו"ל.

לעשייתה של פרופ' מיכל אמיתי יש פנים רבות יפות נוספות, אז בואו לכנס ותיהנו מהמצגת (:...
על כל אלה מוענק השנה לפרופ' מיכל מריאן אמיתי פרס יקירת האיגוד הרדיולוגי הישראלי לשנת 2025

ISRA2025

AWARDS



Dr. Konstantin

Dr. Konstantin Kenigsberg is a distinguished Senior Radiologist and innovator who began his medical journey at the Belarusian State Medical University, specializing early in advanced MRI techniques.

He completed a fellowship in neuroradiology and nuclear medicine at the University Hospital of Würzburg, Germany, before becoming a leading MRI specialist at the Minsk Cancer Center.

An active international figure, he has trained radiologists globally, served on the Belarusian Society of Radiology authority board, and received the ESR “Invest in Youth” award three times.

After serving as Chief Radiologist for a major private imaging network in Kyiv, Ukraine, Dr. Kenigsberg was forced to rebuild his career, relocating to Israel due to the war. He quickly established himself at Carmel Medical Center in Haifa as a Senior Radiologist, where he has introduced numerous unique, advanced MRI protocols and is completing a second specialization in Nuclear Medicine. He now represents Israel on the Membership Committee of the European Society of Oncologic Imaging (ESOI), recognizing his professional and academic contributions. Beyond the clinic, Dr. Kenigsberg is the co-founder of Bodyscope VR, an educational startup merging radiology and virtual reality to advance medical learning worldwide.

ISRA2025

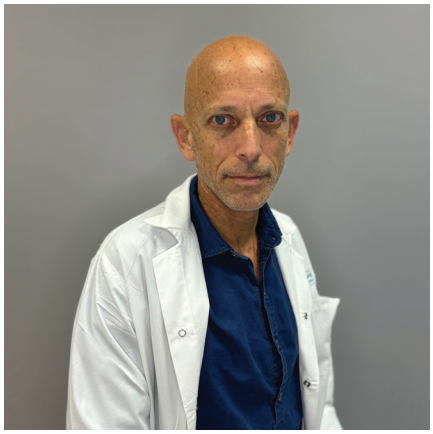
AWARDS

Dr. Liza Livshits

- Head of Breast Imaging Section - Emek Medical Center (2024)
- Clinical Lecturer, Faculty of Medicine, Technion- Israel Institute of Technology (2024)
- Outstanding Technion Lecturer Award (2018 - present)
- Outstanding Technion Tutor Award (2023)
- Clalit Health Services C.E.O' s Excellence Award recipient (2022)
- Written & Oral National Board Breast Imaging examiner / coordinator (since 2022)
- Breast Imaging section received Fellowship training accreditation - by the Scientific Council (2025)

ISRA2025

AWARDS



ד"ר יגאל פרנק

ד"ר יגאל פרנק סיים את התמחותו ברדיולוגיה אבחנתית בבית החולים סורוקה בשנת 2018, ולאחר שנה הצטרף לצוות הרופאים במרכז הרפואי שערי צדק – שילוב טבעי ומוצלח. הוא רדיולוג מסור ובעל תשוקה אמיתית למקצוע, המשלב מקצוענות קלינית, חשיבה חדה ויכולת אבחונית גבוהה במיוחד. התמחותו ברדיולוגיה של רפואת חירום (Emergency radiology) מאוניברסיטת טורונטו , קנדה , הקנתה לו יתרון משמעותי בזיהוי מהיר ומדויק של ממצאים קריטיים, והוא מצטיין במתן מענה מקצועי איכותי גם במצבים המורכבים ביותר.

מעבר למצוינותו המקצועית, ד"ר יגאל פרנק מתאפיין בזמינות תמידית, נכונות לסייע ויכולת לייעץ לכלל עמיתיו. הוא אהוד על הצוות ובמיוחד על המתמחים, מלווה אותם מקצועית , ומגלם דוגמה לאיש צוות אמיתי – מחויב, רגיש ואכפתי. תרומתו למכון אינה מסתכמת ביכולותיו הרפואיות, אלא ניכרת גם ביחסו האנושי, ברגישות יוצאת הדופן ובחברותו הכנה, ההופכים אותו לאיש שיח מוערך וחבר אמיתי לצוות כולו.

מעבר להיותו רופא מצטיין, ד"ר יגאל פרנק הוא אב מופלא לשלושת בניו. תמצא אותו מבלה איתם בחופשות בלב המדבר, מטפח בהם את אהבת הארץ ואת הסקרנות לחקור ולגלות. לצד מחויבותו המקצועית והמשפחתית, הוא ניחן ביכולת כתיבה מרשימה, המאפשרת לו לבטא את עולמו בצורה מעמיקה ורגישה ומעוררת עניין.

בסופו של דבר, הבחירה בד"ר יגאל פרנק כרופא מצטיין איננה מקרית. היא נובעת מהשילוב הייחודי שבין מקצועיות בלתי מתפשרת, זמינות מתמדת ונכונות לסייע בכל עת, רוח צוות אמיתית ויכולת להיות עוגן תומך לחבריו ולעמיתיו. לצד כל אלה הוא מצליח לשמור על איזון נדיר – מחויבות עמוקה למקצוע לצד מסירות למשפחתו – דבר ההופך אותו לרדיולוג מוביל ולאדם שמוערך ואהוב על סביבתו.

Dr. Perl Hershkowitz

Dr. Perl Hershkowitz is a radiologist at Kaplan Medical Center in Rehovot, Israel.

She specializes in body imaging and has decades of experience in the field.

A proud Zionist, she made aliyah from the United States in 1986.

Dr. Hershkowitz is known for her deep curiosity and passion for medicine.

She has educated and mentored many generations of radiologists with patience and love.

Her legacy is reflected in the values she instilled and the knowledge she shared.

Sunday, 26 October 2025
Plenary Session 3: La Prima Volta

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THE ILLUSION OF FREE AIR: ABDOMINAL PAIN POST LAPAROSCOPIC POVH REPAIR

Wasim Darawsha[1], Sigal Tal[1,2], Alla Khashper[1,2]
[1]*Department of Radiology, Shamir Medical Center, Rishon Leziyon, Israel*; [2]*Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel*

Ovarian dermoid cysts are relatively common and often detected incidentally on imaging, yet rupture may occur spontaneously or following trauma, including surgery, and can lead to acute or chronic peritonitis. Diagnosis is usually straightforward when a fat-containing ovarian lesion is seen along with intraperitoneal fat droplets.
We present a challenging case of ruptured ovarian cyst with acute-on-chronic peritonitis in a postmenopausal immigrant woman, diagnosed on CT 24 hours after laparoscopic abdominal wall hernia repair. The patient had undergone ovarian cystectomy 15 years earlier, but no prior imaging or detailed history were available.
CT demonstrated several fat droplets beneath the right hemidiaphragm and a small amount of pelvic free fluid, greater than expected postoperatively. Multiple foci of subcutaneous and extraperitoneal free air were also identified in the abdominal wall, consistent with recent surgery. Crucially, CT findings distinguished fat droplets from free intraperitoneal air, despite both appearing hypodense on abdominal window settings with negative Hounsfield unit values. Careful review using lung window settings and recognition of the typical features of a ruptured dermoid cyst led to the correct diagnosis of chemical peritonitis. Subsequent detailed patient history confirmed prior removal of a primary ovarian dermoid cyst

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TUMEFACTIVE DEMYELINATING LESION MIMICKING HIGH-GRADE GLIOMA: A DIAGNOSTIC PITFALL

Anna Barenbaum, Meital Adi
Radiology Department, Kaplan Medical Center, Rehovot, Israel

A 44-year-old woman presented in 2021 with new-onset left homonymous hemianopia and a -ever seizure. She was otherwise healthy and had received a COVID-19 vaccination one month earlier. CT showed vasogenic edema in the right occipital lobe. MRI revealed a right occipital white matter lesion, hypointense on T1, hyperintense centrally with a hypointense rim on T2, partial central suppression on FLAIR, and no hemorrhage on SWI. Surrounding edema was mild, without midline shift. Post-contrast images demonstrated incomplete ring enhancement, with peripheral diffusion restriction.

Although these findings favored a tumefactive demyelinating lesion(TDL), the imaging was interpreted as more consistent with high-grade glioma and the patient underwent craniotomy and resection. Histopathology revealed a demyelinating/inflammatory process. Anti-MOG and AQP4 antibodies were negative, and lumbar puncture was deferred due to postoperative bleeding. The case was initially interpreted as probable ADEM following vaccination.

During the next two years, the patient experienced recurrent visual deficits, depression, and gait disturbance. In 2023, follow-up MRI showed new enhancing and non-enhancing white matter lesions, establishing the diagnosis of multiple sclerosis.
This case illustrates the importance of distinguishing TDL from high-grade glioma and ADEM. Careful recognition of MRI features and long-term follow-up are crucial for accurate diagnosis and appropriate management.

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WHEN THE CONDUIT TURNS AGAINST ITSELF: A RARE SURGICAL COMPLICATION

Santana Oznovich
Radiology Department, Shaare Zedek Medical Center, Jerusalem, Israel

A 67 y. male with a history of TCC underwent radical cystectomy with ileal conduit urinary diversion. He presented to the ER with diffuse abdominal pain, anuria, and chills. Abdominal CT with oral contrast demonstrated bilateral ureterohydronephrosis and marked distention of the conduit, consistent with a closed-loop obstruction. The patient was taken to surgery. Endoscopy revealed complete stomal obstruction, while abdominal exploration showed a distended, obstructed ileostomy due to volvulus. Resection of the non-viable stoma with reconstruction was performed.

Volvulus of an ileal conduit is an exceptionally rare complication. A few cases described in the literature. CT plays a pivotal role in diagnosis identifying both the site and cause of obstruction, and assessing secondary effects such as hydronephrosis. Importantly, radiologic findings should resemble those of small bowel volvulus, including a closed-loop configuration and upstream dilatation. Early surgical intervention is essential to prevent intestinal necrosis, renal impairment, and septic complications. Predisposing surgical factors include excessive conduit length, inadequate retroperitonealization of the ureteroileal anastomosis, and failure to close mesenteric or peritoneal defects, which permit increased conduit mobility and torsion. This case underscores the need to consider volvulus as a potential cause of obstruction in patients with ileal conduits.

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GROIN SWELLING IN PREGNANT WOMEN: ROUND LIGAMENT VARICOSITIES MIMICKING INGUINAL HERNIA – CASE SERIES AND DIFFERENTIAL DIAGNOSIS

Rafail Danilov, Ilan Shelef, Maria Ravid
Department of Diagnostic Radiology, Soroka Medical Center, Beer Sheva, Israel

Groin swelling in women, especially during pregnancy, is often misdiagnosed as inguinal hernia. Round ligament varicosities (RLV) represent a rare but important differential diagnosis, usually appearing in the second and third trimesters. Misinterpretation may lead to unnecessary surgical interventions.

We present three illustrative cases. Two pregnant women (gestational weeks 30 and 36) presented with painful or enlarging groin swelling. Ultrasound with color Doppler demonstrated serpiginous tubular venous channels within the round ligament, consistent with RLV. Both patients were managed conservatively without surgery, and the condition resolved postpartum. A third case involved a 3-month-old infant with an irreducible groin swelling. Surgery revealed a sliding indirect inguinal hernia containing uterus, ovary, fallopian tube, and bowel.

Ultrasound with Doppler is essential for differentiation between true hernia and other mimics. RLV typically shows multiple serpiginous vessels with venous flow, in contrast to hernia sac containing bowel or omentum, lymphadenopathy, vascular malformations, or hydrocele of the canal of Nuck.

Awareness of this condition and its imaging features is crucial to prevent unnecessary operations during pregnancy. Correct identification ensures appropriate management and reduces maternal and fetal risk.

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RIGHT VENTRICLE PAPILLARY MUSCLE RUPTURE IN NON-ECG GATED CT

Ahmed Salhab
Department of Radiology, Kaplan Medical Center, Rehovot, Israel

Case presentation: This case report describes a 35-year-old male who presented to the emergency department following a motorcycle accident. On admission, the patient was hemodynamically stable with multiple injuries including femoral and rib fractures. FAST was negative, and total body CT revealed a right-sided hemopneumothorax without evidence of active bleeding. The patient underwent orthopedic surgery for fracture fixation, during which he developed sudden hemodynamic instability. Transthoracic echocardiography demonstrated severe tricuspid regurgitation with suspicion of papillary muscle rupture. Retrospective review of the initial trauma CT, performed without ECG-gating, revealed marked right atrial enlargement and an intraluminal filling defect consistent with avulsed papillary muscle protruding into the atrial cavity.

Conclusions: This case highlights the diagnostic challenges of detecting blunt cardiac injuries in trauma settings, particularly when relying on non-ECG-gated CT protocols. This case emphasizes the essential role of radiologists in the early identification of rare cardiac trauma and the importance of multidisciplinary collaboration in trauma care.

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AORTIC DISSECTION IN PREGNANCY

Mohammad Dawud
Bar Ilan Faculty of Medicine, Galilee Medical Center, Nahariya, Israel

Background: Aortic dissection during pregnancy is a rare entity that carries devastating consequences for both mother and fetus.

Methods: A 24-year-old female in her 1st trimester presents to the ER department with severe upper abdominal pain. The patient was stable hemodynamically with prominent upper abdominal tenderness. Lab tests were positive for high lactate at 6 mmol/L.
A CT scan suspecting bowel perforation despite pregnancy was requested. Considering radiation hazards, radiologists gave permission for a abdominal NCCT scan.
The NCCT report came back negative for bowel perforation, but there was a very subtle, partially visualized distention of the ascending aorta.
The finding was reported to the cardiologist with a request for further evaluation with an echocardiographic exam. Echo confirmed aortic dilation.
A CT Angiogram was subsequently requested, which revealed an intimal flap involving the aortic root, extending cranially to involve the brachiocephalic trunk and caudally to involve the external iliac arteries bilaterally, findings in keeping with a Type A aortic dissection. Findings were reported to ER physician and the patient was referred urgently to a tertiary hospital for cardiothoracic surgical care.

Results: A thorough pattern of search for subtle signs such as a partially visualized distended ascending aorta is important for diagnosis. CTA is the investigation of choice for diagnosis and assessment of further complications.

Conclusions: Aortic dissection in pregnancy can be challenging to diagnose, considering radiation hazard for mother and fetus. High clinical suspicion conjoined with radiological investigation are crucial to diagnosis.

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ONE SNEAKY TROUBLE-MAKER - A CASE OF TUMOR-INDUCED OSTEOMALACIA DIAGNOSED BY 68GA-DOTATATE PET-CT

Elinor Kalderon[1,2], Yael Eshet[2,3], Liran Domachevsky [2,3]
[1]*Division of Radiology, Sheba Medical Center, Ramat Gan, Israel;* [2]*Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel;* [3]*Institute of Nuclear Medicine, Sheba Medical Center, Ramat Gan, Israel*

Case presentation: A 41-year-old man suffered for nearly two years from progressive bone pain and gait disturbance, eventually requiring a cane. Multiple evaluations failed to yield a diagnosis, and his daily life was severely impaired.

Bone scintigraphy demonstrated diffuse symmetric increased uptake in vertebrae, costochondral junctions, and periarticular regions, compatible with osteomalacia and insufficiency fractures. Laboratory evaluation revealed profoundly low phosphate levels. Further testing showed markedly elevated fibroblast growth factor 23 (FGF23), suggesting tumor-induced osteomalacia (TIO), a rare syndrome caused by small mesenchymal tumors that secrete hormones driving phosphate wasting.

The key challenge was tumor localization. Initial PET-CT revealed only a subtle tibial lesion, barely perceptible on radiographs. Today, however, once TIO is suspected, the gold standard imaging modality is 68Ga-DOTATATE PET-CT, exploiting the endocrine nature of these tumors. In this case, the tibial lesion lit up intensely — the proverbial needle in a haystack.

Management and Outcome:The patient underwent surgical resection. Within 24 hours, phosphate normalized, and within days, pain subsided and mobility improved dramatically.

Conclusion: This case demonstrates how raising suspicion for TIO and using targeted molecular imaging can transform years of unexplained suffering into a precise diagnosis and a curative outcome

Parallel Session 4: Pediatric Imaging

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TORSION AS A RARE COMPLICATION OF CONGENITAL SPLEEN ANOMALY-DIAGNOSTIC OPPORTUNITIES. THREE CASE REPORTS

Nadiia Rokytska, Evelin Novik Farkash, Ilan Shelef
Radiology department, Soroka University Medical Center, Beer Sheva, Israel

Background: Various congenital anomalies may affect the spleen, starting with common anomalies, such as an accessory spleen, up to rare conditions such as a wandering spleen and polysplenia.

An accessory spleen is splenic tissue located separately from the anatomical location of the spleen.

Polysplenia syndrome is a complex congenital anomaly characterized by partial visceral heterotaxia (situs ambiguous) and concomitant levoisomerism (bilateral left-sidedness)

Wandering spleen is an unusual condition characterized by hypermobility of the spleen.

Most of these anatomic variants have no clinical significance. But sometimes may occur such rare complication as torsion.

Torsion in medicine refers to an abnormal twisting of a part of the body, which can lead to a decrease or stop in blood flow to that area. It is a serious condition that often causes severe pain and requires immediate medical attention. If left untreated, it can lead to tissue death due to lack of blood supply.

Purpose: To show three cases of spleen torsion in patientswith congenital spleen anomaly, which were diagnosed in our hospitals.

Methods: Three patients (two female, 1 male), mean age 13 years old,underwent MDCT and US to recognition of congenital spleen anomaly and torsion of the spleen , as rare complications onthis condition.

Nonionic iodinated contrast material was injected at a rate 1.5-2.5 ml/sec.

Technical parameters used for CT examinations were as follows: detector collimation, 64x0.625 mm; gantry rotation time, 0.75 sec; 80-120 kV and 35–75 mAs (according to weight of the child).

Results: torsion of wandering spleen was diagnosed in 2 patients, torsion of wandering accessory spleen – in 1 patient. Surgery was performed for all patients, doing laparoscopic splenectomy;

Conclusions: A combination of noninvasive imaging techniques, such as US and biphasic MDCT can provide early diagnosis of such rare complication of congenital spleen anomaly as torsion.

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HOW DO I DIAGNOSE PEDIATRIC PATIENT`S SKULL LANGERHANS CELL HISTIOCYTOSIS LESIONS?

Anat Ilivitzki[1,2]
[1]*Diagnostic Imaging, Rambam Health Care Campus, Haifa, Israel*; [2]*Medicine, Technion Institute of Technology, Haifa, Israel*

Background: Langerhans Cell Histiocytosis (LCH) frequently affects pediatric patients, with skull lesions being a common manifestation. The differentiation of skull lesions involves a broad differential diagnosis, and histopathologic confirmation is essential. Traditionally, surgical resection has been the gold standard for obtaining tissue samples, but percutaneous fine needle biopsy (FNB) has gained traction in other oncologic areas due to its lower risk profile.

Objective: To compare the diagnostic performance, complications, procedure availability, hospital stay, and long-term outcomes of surgical resection and percutaneous FNB for pediatric skull LCH lesions.

Methods: We retrospectively reviewed pediatric cases of skull lesions diagnosed as LCH between 2002 and 2024. Diagnostic procedures included either surgical resection with biopsy or percutaneous ultrasound-guided FNB. Data collected included demographics, clinical details, procedure timing, complications, and follow-up outcomes.

Results: Of 35 cases, 26 underwent surgical resection and 9 underwent FNB. Diagnostic accuracy was 100% for the surgical group and 89% for the FNB group. The median time from biopsy request to procedure was 12 days for surgery and 1 day for FNB. Complications occurred in 53.8% of surgical cases, including infections and skull deformities, while no complications were recorded in the FNB group. The mean hospital stay was significantly shorter for the FNB group (1.5 days vs. 2.6 days for surgery). Regression of lesions occurred in 4 cases, including two following biopsy.

Conclusions: Percutaneous FNB is a safe and effective diagnostic alternative to surgical resection in pediatric LCH skull lesions, offering faster procedure times, lower complication rates, and comparable diagnostic accuracy. This supports its use as a first-line approach when feasible

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DIAGNOSTIC AND MANAGEMENT CHALLENGES IN DICER1-ASSOCIATED PLEUROPULMONARY BLASTOMA: A CLINICAL CASE SERIES

Anat Ilivitzki[1,2]
[1]Diagnostic Imaging, Rambam Health Care Campus, Haifa, Israel; *[2]Faculty of Medicine, Technion Institue of Technology, Haifa, Israel*

Background: Pleuropulmonary blastoma (PPB) is a rare, aggressive pediatric lung tumor linked to DICER1 mutations. Its cystic Type I form is frequently misdiagnosed as congenital pulmonary airway malformation (CPAM).

Methods: We present a case series of six children with DICER1-associated lung disease from a single institution, illustrating paramount diagnostic and therapeutic challenges.

Results: Cases included symptomatic infants with Type I PPB masquerading as CPAM and an index case of Type II PPB that uncovered a familial DICER1 mutation and three asymptomatic siblings with multifocal cystic lesions. Our series elucidates three core challenges: (1) The radiological impossibility of reliably differentiating Type I PPB from CPAM, necessitating a high clinical suspicion for any symptomatic cystic lesion absent prenatally. (2) The ethical and clinical dilemma in managing asymptomatic DICER1-positive children with multifocal disease, where the risks of multiple surgeries must be weighed against the risk of progression. (3) The unresolved question of adjuvant chemotherapy following incomplete resection of Type I PPB.
Conclusions: PPB is a diagnostic mimic that requires a proactive strategy involving genetic testing and expert pathology review. Management of asymptomatic carriers is not standardized and should be highly individualized through international registry collaboration to refine surveillance and treatment protocols.

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QUANTIFICATION OF ADIPOSE TISSUE COMPARTMENTS IN SMALL-FOR-GESTATIONAL-AGE FETUSES WITH FAT-WATER MAGNETIC RESONANCE IMAGING

Bar Neeman, Levi Elhadad, Tamir Graziani, Jayan Khawaja, Ayala Zilberman, Sharon Vanetik, Yair Wexler, Jacky Herzlich, Karina Krajden Haratz, Liat Ben Sira, Liran Hiersch, Leo Joskowitz, Aviad Rabinowich, Dafna Ben Bashat
Department of Radiology, Tel Aviv Medical Center, Tel Aviv, Israel

Background: Fetal growth restriction (FGR) is linked with impaired nutrient supply and perinatal morbidity. Due to the nutritional mismatch between placental supply and fetal demand, growth-restricted fetuses typically exhibit a leaner body habitus. While previous studies describe a temporal and regional pattern of fat accretion, with the upper limbs having the most rapid lipid accumulation at late gestation, it remains unclear whether certain subcutaneous compartments are affected more than others.

Objective**:** To compare regional subcutaneous fat between FGR/small-for-gestational-age (SGA) fetuses and appropriate-for-gestational-age (AGA) controls, and to explore differences according to early (diagnosis

Methods: Participants underwent 3T fetal MRI with fat-water separation. Using a deep-learning pipeline subcutaneous fat was segmented and manually divided into four compartments: cheeks, upper limbs, trunk, and lower limbs. The tissue lipid fraction (expressed as the fat signal fraction [FSF]) and adjusted fat mass (FM) were computed.

Results: FSF was significantly lower in all compartments among FGR/SGA compared with AGA fetuses – cheeks (46.9% vs. 56%), trunk (33.0% vs. 42.3%), lower limbs (33.4% vs. 42.7%), and upper limbs (35.1% vs. 47%), (P0.001). Adjusted FM was significantly lower in the upper limbs (P=0.043), but not in other compartments (P≥0.08). There were no significant differences in FSF or FM differences between early- and late-onset FGR/SGA, or between fetuses with normal versus abnormal CPR (P≥0.052).

Conclusions: FGR/SGA fetuses demonstrate reduced FSF across all regions and reduced FM in the upper limbs compared with AGA controls, suggesting that regions with rapid third-trimester fat accumulation may be particularly vulnerable to growth restriction. Fat-water MRI is a non-invasive means of evaluating fetal nutritional status and may help identify malnourished fetuses.

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TEN-YEAR EXPERIENCE WITH ULTRA-FAST MRI FOR PEDIATRIC APPENDICITIS: RADIATION-FREE ALTERNATIVE TO CT IN CHILDREN WITH EQUIVOCAL ULTRASOUND FINDINGS

Ariel Rauchwerger[1,2], George Bınıashvılı[1,2], Mıchalle Soudack[1]
[1]*Department of Diagnostic Imaging, The Chaim Sheba Medical Center, Ramat Gan, Israel*; [2]*Grey School of Medicine, Gray Faculty of Medical & Health Sciences, Tel Avıv Unıversıty, Tel Aviv, Israel*

Background: Appendicitis is the most common surgical emergency in children. Ultrasound (US) is the first-line modality, but its operator dependency and limited sensitivity (85–90%) often lead to equivocal results. Computed tomography (CT), with sensitivity and specificity 95%, is considered the gold standard, yet it exposes children to ionizing radiation and at times requires IV contrast. Magnetic resonance imaging (MRI) provides comparable accuracy (sensitivity 90–95%, specificity 95%) without radiation, but conventional protocols are lengthy and often necessitate sedation.
Purpose: To describe a decade of institutional experience with an ultra-fast MRI protocol for suspected pediatric appendicitis, designed to minimize exam time and eliminate the need for sedation, IV contrast, and radiation.

Methods: We retrospectively reviewed 2247 pediatric MRI examinations performed over ten years. A total of 139 patients met inclusion criteria for suspected appendicitis. The ultra-fast protocol consisted of axial, coronal, and sagittal T2 spin-echo/fast spin-echo (with and without fat suppression) and T1 (with and without fat suppression) sequences. Total MRI scan time is approximately 15 minutes.

Results: Of the 139 patients, 31 were positive for appendicitis and 60 were negative. The remaining cases demonstrated alternative or nonspecific findings. The rapid protocol minimized motion artifacts and consistently allowed diagnostic-quality studies without sedation or IV contrast. Importantly, diagnostic confidence was maintained despite shortened acquisition times.

Conclusions: While US remains the first-line modality and CT the gold standard for diagnostic accuracy, our ultra-fast MRI protocol provides a reliable, radiation-free alternative for children with equivocal US findings. This ten-year experience highlights the feasibility and clinical value of integrating fast MRI into the diagnostic pathway, addressing key limitations of conventional imaging in pediatric appendicitis.

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COMPARATIVE STUDY OF RADIATION DOSE LEVELS IN CT SCANS USING SIEMENS NAEOTOM ALPHA VS. GE AND PHILIPS SYSTEMS

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Background: The aim of this study was to compare radiation dose levels between three different CT scanners, focusing on standard oncological routine protocols, specifically chest-abdomen-pelvis (CAP) scans.

Methods: We assessed the radiation dose in patients who underwent a routine contrast enhanced follow-up chest and abdomen CT for oncologic indications, both on a Siemens Naeotom Alpha CT (dual source photon counting CT) and one of two other scanners (GE Revolution or Philips Brilliance). For each patient we collected the following data – Dose Length Product (DLP) and Computed Tomography Dose Index Volume (CTDIvol), which are standard indicators of radiation exposure during CT examinations, here presented as mean (Interquartile range - IQR). For 10% of patients, 2 radiologists compared the quality of CT on the Siemens and GE/Phillips systems.

Results: A total of 378 patients participated in the study, each had 2 scans. The results demonstrated that the Siemens Naeotom Alpha delivered lower radiation doses compared to the GE and Philips systems. Specifically, the average DLP recorded for the Siemens scanner was 675 mGy·cm (IQR 509.5-804.75 mGy·cm), compared to 979.8 mGy·cm (IQR 647.25-1205.75 mGy·cm) for the other devices (reduction of approximately 31%). Similarly, the CTDIvol for Siemens was 10.1 mGy (IQR 7.75-11.95 mGy), versus 13.84(IQR 9.59-16.12 mGy) mGy in the GE and Philips systems, reflecting a decrease of 26.8%. Comparison of CT quality revealed similar or better quality for all Siemens Photon Counting CT scans.

Conclusions: These findings highlight the potential of photon-counting CT technology to substantially reduce radiation exposure while maintaining high image quality—an especially critical factor for oncology patients who require repeated imaging. The study provides compelling evidence supporting the adoption of advanced CT technologies as part of a broader effort to enhance patient safety and optimize diagnostic imaging practices.

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THE ANATOMICAL ADVANTAG: CT RADIOMICS IMPROVE OUTCOME PREDICTION BEYOND STANDARD CLINICAL-PET AND PET RADIOMICS IN PEDIATRIC HODGKIN LYMPHOMA

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Background: In pediatric Hodgkin lymphoma (HL), outcome prediction relies on risk-adapted protocols combining clinical factors with interim FDG PET/CT, mainly focused on the isotopic PET component. Our previous work showed that CT adds prognostic value, underscoring the importance of anatomical information. We therefore investigated whether radiomics could further exploit this signal to improve prediction of event-free survival (EFS) beyond the standard clinical+PET model.

Methods: Post–first-cycle PET/CT scans from 137 patients with stage IIIB/IVB HL enrolled in the COG AHOD0831 trial (NCT01026220) were analyzed. Up to five lesions per patient were segmented; PET images were SUV-standardized, and radiomic features from PET and CT were extracted and averaged with tumor volume weighting. Clinical variables included demographics, histology, stage, bulky disease, and PET response. Machine learning models were trained with stratified 5-fold cross-validation, and performance metrics were averaged across folds.

Results: EFS events occurred in 27 patients (19.7%). CT radiomics outperformed the standard clinical + PET model (accuracy 0.78 ± 0.10; balanced accuracy 0.71 ± 0.09 vs. 0.70 ± 0.11; 0.66 ± 0.04) and exceeded PET radiomics (accuracy 0.77 ± 0.07; balanced accuracy 0.66 ± 0.07). The strongest performance was achieved by combining CT radiomics with clinical variables.

Conclusion: Consistent with prior findings that PET+CT surpasses PET alone, radiomics from CT improved upon the standard clinical + PET model and outperformed PET radiomics. These findings reinforce the prognostic importance of anatomy and support CT radiomics as a promising tool for early risk stratification in pediatric high-risk HL.

Parallel Session 5: Cardiothoracic Imaging

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THE UTILITY OF PRE-TAVI (TRANSAORTIC VALVE IMPLANTATION) CT FOR DETECTION OF INTESTINAL ANGIODYSPLASIA IN AORTIC STENOSIS PATIENTS

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Background: Angiodysplasia (AGD) of the gastrointestinal tract is major cause of bleeding in Aortic stenosis (AS). We aim to assessAGD detection and location in AS patients in pre- transaortic-valve-implantation (TAVI) CT angiography and correlate withclinical and CT parameters.

Methods: Retrospective evaluation of 300 AS patients referred for pre-TAVI CTAs for AGD features (dilated wall-vessels, focal enhancement, early-filling veins, dilated artery) on 3-point scale (0-absent, 1-mild, 2-severe) and location. Association with demographics, CT protocol (spiral vs. ultra-high-pitch) and contrast material (CM) injection, AS severity [echo: mean aortic valve (AV) gradient & aortic valve area (AVA); CT: calciumscore] were computed using uni-and multivariate analyses.

Results: Mean patient age was 81(±7.2); females 162(54%). AGD was identified in 134(44.7%), commonest in cecum 107(36%), in two locations in 15(5%). Commonest CT findings were dilated wall-vessels (72%) and focal enhancement (52%). 255(85%) patients underwent spiral protocol, mean CM injected and rate were 55ml (±10.7) and 3.8 ml/sec (±0.7) respectively. AGD detection was higher in ultra-high-pitch protocol (81% vs 52%, p 0.001). Statistical analyses showed no significant associationwith age, sex, injection rate or AS severity parameters.

Conclusions: Pre-TAVI CTA revealed AGD in 44% of AS patients, predominantly in the cecum. Severe AGD correlated with AS severity. Pre-TAVI CTA may provide complementary prognostic information for GI bleeding in addition to anatomical planning.

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CT-DERIVED FEMORAL CHARACTERISTICS FOR PREDICTION OF VASCULAR COMPLICATIONS FOLLOWING TRANSFEMORAL TAVI

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Background: Access-site vascular complications (VCs) following transfemoral transcatheter aortic valve implantation (TF-TAVI), continue to be a significant cause of morbidity after. Femoral artery (FA) features obtained from computed tomography (CT), especially calcification and puncture site anatomy, may be predictive of risk but have not been thoroughly verified in real-world cohorts.

Methods: We retrospectively examined 62 consecutive TF-TAVI patients with femoral measurements and outcome data. The following CT-derived FA metrics were extracted: depth, distance from bifurcation, calcification location (none, anterior, posterior, circumferential), echocardiographic parameters, and baseline demographics. According to VARC definitions, "any vascular complication" was the study protocol`s code for the main endpoint. Mann-Whitney U, Fisher`s exact/χ^2, and logistic regression were used for comparisons; discriminative ability was assessed using ROC analysis.

Results: Overall, 8 patients (12.9%) developed any access-site VC. Median BMI was 27.1 kg/m²; 50% were women. FA distance from bifurcation was longer in VC vs no-VC cases (18.7 vs 15.6 cm), with OR 1.20 per cm (95%CI 0.89–1.62; p = 0.24; ROC AUC = 0.64). FA depth showed no significant association (median 3.2 vs 3.4 cm; OR 0.60, p = 0.29; AUC = 0.40). Calcification location was most predictive: VC rates were 8.3% (none), 0% (anterior), 5.9% (posterior), and 33.3% (circumferential). Ventral/circumferential plaque carried OR 3.5 (0.76–16.1; p = 0.11). In a simplified model including FA distance and ventral calcification, ventral plaque remained the strongest signal (adjusted OR 4.46, 95%CI 0.83–23.8; p = 0.08).

Conclusion: In this single-center TF-TAVI study, circumferential/ventral femoral calcification and greater distance from the bifurcation emerged as anatomical factors associated with higher vascular complication risk, although statistical significance was limited by event numbers. These findings reinforce the clinical importance of puncture location and calcification distribution in pre-TAVI access planning.

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REDUCING UNNECESSARY CHEST X-RAYS: PERFORMANCE OF A STREAMLINED DECISION RULE IN NON-TRAUMATIC CHEST PAIN

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Background: Chest X-ray (CXR) remains a cornerstone of thoracic imaging in the emergency department (ED). However, evidence shows it is frequently overutilized, leading to unnecessary radiation exposure and increased burden on radiology services, while its diagnostic yield in non-traumatic chest pain remains modest. The Newsom Score, a clinical decision rule, was developed to guide CXR utilization but relies on physician examination findings, introducing variability in decision-making and contributing to overuse. We aimed to validate its performance locally and assess whether a simplified version, designed for triage-level application without physical examination data, could reduce CXR use while minimizing variation and maintaining diagnostic accuracy.

Methods: This retrospective study at Soroka University Medical Center included 96,489 ED visits for non-traumatic chest pain. Both the original Newsom Score and a modified, examination-free version were retrospectively applied and compared with routine practice by CXR utilization and diagnostic yield: proportion of clinically significant findings among all CXR performed or recommended. In developing the modified score, auscultation findings were removed, and variables were excluded or added according to statistical performance and clinical relevance.

Results: In current practice, 67,225 patients underwent CXR (69.7%), with a diagnostic yield of 5.7%. Retrospective application of the original Newsom Score would have increased the number of CXRs to 72,652 (+8.7% vs current practice), while maintaining the same yield of 5.7%. In contrast, retrospective application of the modified score would have recommended 58,080 CXRs (-12.6% vs current practice), theoretically reducing imaging by 8,452 studies while increasing the diagnostic yield to 6.6%.

Conclusions: The original Newsom Score neither improved diagnostic yield nor reduced CXR use, whereas the modified score reduced imaging and increased yield. A uniform rule without auscultation findings could reduce inter-physician variability, improve diagnostic accuracy, decrease unnecessary CXRs, and ease the burden on radiology resources and staff.

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HUMAN–AI INTERACTION FOR IMPROVED DIAGNOSIS OF PULMONARY EMBOLISM

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Background: Artificial intelligence (AI) is routinely employed in our institution for pulmonary embolism (PE) detection. Following a pilot study, we sought to evaluate whether human–AI notification improves diagnostic accuracy.

Methods: As part of a quality improvement (QI) initiative, in May 2023 Hadassah Medical Center implemented a locally developed real-time alert system for positive AI software findings (AIDOC, Tel Aviv, Israel) in PE detection. The system delivers SMS and radiology information system (RIS) notifications to designated thoracic radiologists, who then verify AI results and provide immediate feedback to optimize CT interpretations. Data from the QI program were retrospectively analyzed. Statistical comparisons of PE and incidental PE detection were performed across referral sources (Emergency Department [ED], inpatients, and outpatients). The proportion of cases in which expert monitoring altered reporting (earlier reporting or revision from negative to positive) was also assessed.

Results: Between May 2024 and December 2024, 270 AI-generated notifications of suspected PE were analyzed: 146 from the ED (54.1%), 103 from inpatients (38.1%), and 21 from outpatients (7.8%). Among these, 111 cases (41.1%) were performed with CTPE protocol and 159 (58.9%) represented incidental findings. The mean patient age was 64.6 ± 9.6 years, with slightly higher PE prevalence among women (50.8%). In outpatients, 85.7% (n=17) of detected cases were incidental. Expert monitoring revised final reports from negative to positive PE in 9.3% of cases and facilitated earlier reporting in 58 patients (21.5%), predominantly in the outpatient group.

Conclusions: Close human–AI interaction enhanced PE detection, particularly for incidental findings in outpatients. Ongoing work aims to develop technical solutions to further strengthen human–AI collaboration in clinical practice.

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AI ALERTS IN CHEST X-RAYS: BETTER DETECTION, MORE CONFIDENCE, COMMUNICATION STILL COUNTS

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Background: Prompt detection of misplaced endotracheal (ET) tubes and pneumothorax on chest radiographs is critical to prevent life-threatening complications. Artificial intelligence (AI) systems can provide rapid alerts, potentially improving diagnostic efficiency and patient safety. Such tools may be particularly valuable for radiologists and clinical teams with limited experience, by reinforcing findings, prioritizing emergent pathology, and facilitating communication across teams.

Methods: We retrospectively analyzed 50 consecutive patients who underwent chest radiography from multiple hospital departments and were flagged by a commercial AI system (Aidoc, Tel-Aviv, Israel) for either abnormal ET tube placement or pneumothorax. A first-year diagnostic radiology resident reviewed AI-generated alerts, consulted when necessary, reported confirmed findings to the relevant clinical team, and documented whether the team had already been aware of the pathology.

Results: Of the 50 patients (30 males, 20 females; mean age 73 years), AI identified 32 cases of misplaced ET tubes, of which 24 (75%) were confirmed by radiologist, and 18 cases of pneumothorax, of which 13 (72.2%) were confirmed. In 65% of confirmed cases, clinical teams were unaware of the findings at the time of peer-to-peer reporting, and the average confirmation time was approximately 8 hours.

Conclusions: AI-driven alerts can help identify critical pathologies that may be overlooked in the high workload of daily radiology practice. These tools have the potential to enhance diagnostic accuracy, particularly for less experienced radiologists and clinicians, but their outputs still require expert validation. Most importantly, effective communication between radiology and clinical teams is essential to ensure that AI-detected pathologies are translated into timely and appropriate clinical action.

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ENHERTU (TRASTUZUMAB DERUXTECAN) INDUCED PNEUMONITIS AS A LETHAL ADVERSE EVENT – A SINGLE-CENTER REAL-WORLD OBSERVATIONAL STUDY

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Background: Enhertu (trastuzumab deruxtecan) represents a novel therapy that has demonstrated significant efficacy among cancer patients with HER2 overexpression or mutation. However, Enhertu is associated with the development of pneumonitis in 12-15% of patients, with a progression to fatal respiratory failure in about 2% of cases. Early recognition of typical Enhertu-induced pneumonitis imaging findings is essential for proper treatment. Studies evaluating patients so far used inspiratory chest-abdomen HRCT for follow-up, but no previous study assessed the feasibility of early detection of pneumonitis on routine expiratory PET/CT.

Methods: We assessed all patients treated with Enhertu at our institution who underwent routine CT and PET/CT imaging for the presence of new pulmonary findings.

Results: A total of 150 patients were treated with Enhertu between March 2020 and November 2024, with 84 patients remaining in the study group after exclusions were applied. Among these, 17 patients (20%) developed Enhertu-induced pneumonitis, and 22 developed new pulmonary findings from other causes. Typical Enhertu-induced pneumonitis imaging patterns included organizing pneumonia ($p = 0.01$) and hypersensitivity pneumonitis ($p = 0.01$). The incidence of pneumonitis was significantly higher in males, patients with lung cancer, and those with pulmonary metastatic spread at baseline. No significant correlation was observed between pneumonitis and age, number of previous treatments, initial Enhertu dose, prior radiotherapy, or other pre-existing pulmonary conditions. Patients who developed pneumonitis exhibited significantly shorter median survival compared to those who did not. 6 (7%) patients died from respiratory failure, despite good response to the treatment.

Conclusions: It is possible to recognize Enhertu-induced pneumonitis even in expiratory chest CTs, enabling early treatment of this potentially lethal adverse event.

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SIMPLIFYING RADIOLOGICAL LANGUAGE: THE ROLE OF LLMS IN PATIENT-CENTERED REPORTING: SYSTEMATIC REVIEW

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Background: Simplifying imaging reports and making them understandable for patients is challenging. This review focuses on the application of large language models (LLMs), in generating simplified imaging reports and answering patient inquiries regarding radiological procedures.

Methods: We searched PubMed, Google Scholar, and Scopus for papers published from January 2022 to July 2025. Search terms focused on the application of LLMs, mainly generative pre-trained transformer (GPT), to generate simplified radiological reports and answer patient inquiries regarding radiological procedures. The study follows PRISMA guidelines. The study is registered with PROSPERO (CRD42024496350).

Results: Seventeen studies published between May 2023 and June 2025 met the inclusion criteria. Eight (47%) evaluated GPT-3.5 alone, four (24%) compared GPT-3.5 with GPT-4, and four (24%) assessed GPT-4 exclusively. Two papers (12%) investigated non-OpenAI chatbots Microsoft Bing and Google Gemini Ten investigations (59%) used LLMs to simplify radiology reports, whereas seven (41%) generated patient-facing educational material or answered procedure-related questions. Four studies (24%) obtained direct patient feedback on the generated text, and two (12%) examined the effect of prompt optimization. Adverse or inaccurate outputs were documented in 13 studies (76%), most commonly factual errors, hallucinations, or reading levels above recommended health-literacy standards. Overall, GPT-4-based approaches and studies that applied prompt-engineering or fine-tuning demonstrated superior readability and factual concordance compared with GPT-3.5-only models.

Conclusions: Large language models can translate radiology reports and procedure information into patient-friendly language, but performance remains inconsistent and error-prone. Before clinical deployment, models must be prospectively validated across diverse populations, with explicit benchmarks for factual accuracy, readability, and patient understanding. Continued research, especially trials that incorporate real-world patient feedback and compare successive model versions, is critical for safe and effective adoption.

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AGENT-BASED UNCERTAINTY AWARENESS IMPROVES AUTOMATED RADIOLOGY REPORT LABELING WITH AN OPEN-SOURCE LARGE LANGUAGE MODEL

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Background: To improve the reliability and performance of Large Language Models (LLMs) in extracting structured data from radiology reports, particularly in domains with complex and non-English texts (e.g., Hebrew), by incorporating agent-based uncertainty-awareness method to achieve trustworthy predictions in medical applications.
Methods: This retrospective study analyzed 9,683 Hebrew radiology reports from Crohn's disease patients (2010-2023) across several medical imaging providers. A subset of 512 reports was manually annotated for six gastrointestinal organs and 15 pathological findings, while the remaining data was automatically annotated using the HSMP-BERT model. Structured data extraction used Llama 3.1 (Llama 3-8b-instruct), an open-source LLM, with Bayesian Prompt Ensembles (BayesPE) leveraging six semantically equivalent prompts for uncertainty estimation. An Agent-Based Decision Model synthesized multiple prompt outputs into five confidence levels for calibrated uncertainty, compared against three entropy-based models. Performance was assessed via accuracy, F1 score, precision, recall, and Cohen's Kappa, both before and after filtering high-uncertainty cases.

Results: The agent-based model outperformed the baseline across all metrics, achieving an F1 score of 0.3967, recall of 0.6437, and Cohen's Kappa of 0.3006. After filtering high uncertainty cases (≥ 0.5), the F1 score increased to 0.4787 and Kappa to 0.4258. Uncertainty histograms showed clear separation between correct and incorrect predictions, with the agent-based model exhibiting the best-calibrated uncertainty predictions.

Conclusions: Incorporating uncertainty-aware prompt ensembles and an agent-based decision model significantly enhances the performance and reliability of LLMs in structured data extraction from radiology reports, offering a calibrated and interpretable approach for high-stakes medical applications.

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PHYSICALLY-PRIMED AI-ENHANCED IVIM ANALYSIS OF PLACENTAL DIFFUSION-WEIGHTED MRI REVEALS FUNCTIONAL DIFFERENCES IN LGA PREGNANCIES ASSOCIATED WITH MATERNAL DIABETES

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Background: Maternal diabetes increases the risk of large for gestational age (LGA) fetuses, linked to complications like birth trauma and metabolic disorders. Early detection is vital, as placental dysfunction causes LGA. While IVIM analysis provides non-invasive biomarkers, it is limited by unstable estimates from sparse b-value sampling. This study examines whether AI models incorporating b-values can improve detection of placental differences between healthy and LGA pregnancies.

Methods: Placental DWI was performed on a 1.5T scanner (Ingenia, Philips Medical Systems) using a multi-channel coil. Axial 2D spin-echo images with fat suppression were acquired with TR=4215ms, TE=103ms, slice thickness=5.0mm, spacing=6.0mm, resolution=1.01×1.01mm², and a 121×116 matrix. Nine b-values (0-1000 s/mm²) were used, with a total scan time of ~531 seconds. DWI data from pregnant women with uncontrolled diabetes and healthy controls were analyzed to estimate IVIM parameters - D, D*, and f - using classical IVIM and two AI models, SUPER-IVIM-DC and SUPER-IVIM-DC-Boot, optimized for limited b-value data. Group differences were assessed using Welch's t-test.

Results: Five pregnant women with maternal diabetes and eight healthy controls (mean age: 30.0±5.5 vs. 35.5±2.9 years; gestational age: 35±2.8 vs. 30.3±4.9 weeks) were enrolled. Classical IVIM showed no significant differences. Using SUPER-IVIM-DC, D was lower in the diabetic group (0.001827±0.000086 mm²/s) vs. controls (0.001997±0.000136 mm²/s, p=0.03997). SUPER-IVIM-DC-BOOT showed significant differences in D (0.001931±0.000073 vs. 0.002043±0.000104 mm²/s, p=0.04365) and f (0.2896±0.0428 vs. 0.3421±0.0279, p=0.0494), indicating impaired placental diffusivity and perfusion in maternal diabetes.

Conclusions: AI-based methods, particularly SUPER-IVIM-DC and BOOT, outperformed classical IVIM in detecting functional placental differences in LGA pregnancies, highlighting impaired diffusivity and perfusion. These models show potential as non-invasive tools for early placental dysfunction detection in high-risk pregnancies.

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VARIABILITY IN CT REFERRAL DATA COMPLETENESS: INSIGHTS FROM THE EU-JUST-CT-PROJECT

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Background: CT examinations referrals should ideally include the requesting physician's specialty, patient`s age and gender, clinical indications, relevant clinical history, prior imaging, and a clearly articulated clinical question. In practice, however, such information is often incomplete. This study performed by Israeli researchers evaluated the quality and completeness of CT referrals using audited data from the EU-JUST-CT project across seven European countries: Belgium, Denmark, Estonia, Finland, Greece, Hungary, and Slovenia (n=6,734 referrals).

Methods: Each referral was evaluated using seven binary indicators (1 = present, 0 = missing): (1) Clinical data sufficient; (2) Examination specified; (3) Referrer specialty (4) Prior exams; (5) Patient status (in-/outpatient); (6) patient gender; (7) Age. We computed a Completeness Score (sum of all seven indicators) and a Critical Score based on the four essential items (clinical data, exam type, gender, and age). We examined the distribution of both scores by country and calculated the proportion of fully complete referrals (Completeness Score = 7) and fully critical-complete referrals (Critical Score = 4).

Results: The median Completeness Score was 7 in one country, 6 in in 4 countries, 5 in one country and 4 in one country. The highest mean Completeness Score (6.6), and the lowest was (4.3). The proportion of fully complete referrals ranged from 60.6% to 0.3%. For the Critical Score, all countries had a median of 4, but inter-country variation in the proportion of referrals with full critical data (score=4) was observed: (67-98%). Highest mean Critical Score was 3.98 and lowest 3.64.

Conclusions: Incomplete information on CT referrals was prevalent, with differences observed between the countries evaluated. The results presented raise the need for unified protocols and standards, possibly anchored in the national legislation, which dictates what minimal information is required in a CT referral in order to be approved.

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COMPREHENSIVE AI SYSTEM FOR AUTOMATED BODY COMPOSITION ASSESSMENT USING L3-LEVEL CT IMAGING: MODEL CREATION AND PERFORMANCE EVALUATION

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Background: Body composition analysis using computed tomography(CT) at the L3 vertebral level offers valuable predictive insights for various medical conditions, but widespread clinical implementation remains hindered by the absence of automated, consistent analytical tools. Traditional manual level identification and segmentation is labor-intensive and prone to inter-observer variation. We created and tested a complete artificial intelligence system (CompoCT) designed to automatically identify and segment the middle L3 vertebral cross-section with high precision. Although other automated segmentation systems exist, most lack automated level identification capabilities, and none have been developed using Israeli patient data.

Methods: The CompoCT system incorporates two neural network components: (1) automatic identification of the mid-L3 vertebral slice, and (2) detailed segmentation of that slice. For L3 identification, we manually labeled 828 abdominal CT scans from emergency department patients and employed these for model development using five-fold cross-validation methodology. For slice analysis, we utilized 620 annotated L3 cross-sections to develop a U-Net architecture capable of distinguishing five tissue types: background space, vertebral bone, skeletal muscle, subcutaneous fat (SAT), and visceral fat (VAT). Separate validation datasets included 172 and 125 scans from cancer patients, respectively.

Results: The L3 identification component demonstrated a mean positioning accuracy of 3.9 mm (standard deviation 7.0), successfully locating 93.2% of training samples and 94.2% of validation samples within 10 mm of expert-determined targets. The segmentation component showed excellent performance metrics on validation data: background 99.0%, vertebral bone 96.2%, visceral fat 93.0%, skeletal muscle 92.8%, and subcutaneous fat 96.0% Dice similarity scores.

Conclusions: We successfully created and validated a complete AI-driven system for opportunistic body composition evaluation using CT imaging at the L3 level. The system exhibits excellent performance in both vertebral level identification and tissue classification, indicating strong potential for large-scale research applications and clinical integration. Ongoing efforts will concentrate on incorporating this technology into routine clinical practice.

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VALUES OF BODY COMPOSITION AT L3 VERTEBRAL LEVEL IN ISRAELI GENERAL POPULATION USING NOVEL AI ALGORITHM

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Background: Opportunistic body composition analysis from routine computed tomography (CT) scans provides valuable predictive and prognostic information across multiple etiologies including oncology, cardiovascular disease, surgical risk, metabolic disorders etc. However, establishing normal population values is essential for clinical implementation. Ethnic and geographic population differences and algorithmic variations necessitate standardized methodology and local reference data for accurate assessment.

Methods: We analysed CT scans from 9,000 healthy Israeli adults (ages 18-120, roughly equal sex distribution) across northern, central, and southern Israel within Clalit Health Organization. Age groups (18-30, 31-40, 41-50, 51-60, 61-70, 71-80, 80-120) were roughly equally distributed. Using our novel artificial intelligence algorithm CompoCT (developed by Samuelli Institute and Rabin Medical Center), we measured subcutaneous fat area and index, skeletal muscle area and index, visceral fat area and index, and intermuscular fat area and index at L3 vertebral level.

Results: We established comprehensive normative values for all body composition parameters stratified by age and sex. Significant age-related changes were observed across all compartments, with progressive skeletal muscle decline and fat redistribution patterns. Sex-specific differences were pronounced in visceral and subcutaneous fat distribution. The data will be presented and compared to reference standards in other populations, to evaluate potential population-specific variations.

Conclusions: This study provides the first comprehensive normal values for CT-based body composition analysis in the Israeli population using standardized artificial intelligence methodology. These reference values enable accurate opportunistic screening for body composition, sarcopenia and metabolic risk assessment in routine clinical practice. Geographic population-specific references are essential for precise body composition evaluation. The CompoCT algorithm methodology will be presented separately at this meeting.

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MBSS-T1: AN AI-BASED MOTION CORRECTION TECHNIQUE FOR ROBUST CARDIAC T1 MAPPING IN BREATH-HOLD AND FREE-BREATHING CONDITIONS - TEST-RETEST REPEATABILITY ASSESSMENT

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Background: Cardiac T1 mapping is essential for assessing myocardial tissue characteristics and detecting conditions such as fibrosis and edema, critical for diagnosing and managing heart diseases. However, motion artifacts, especially in free-breathing, can impact the accuracy and reproducibility of myocardial T1 mapping. This study evaluates the test-retest repeatability of MBSS-T1, an AI-based motion correction technique, for myocardial T1 mapping using the MOLLI protocol in both breath-hold and free-breathing conditions, compared to scanner-based standard motion correction and uncorrected data.

Methods: Twelve healthy male volunteers (aged 20-36) underwent myocardial T1 mapping on a 3T MRI using the 5(3)3 MOLLI protocol. Breath-hold and free-breathing datasets were acquired before and after a 20-minute rest. T1 maps were reconstructed using MBSS-T1, scanner-based motion correction, and uncorrected data. Test-retest repeatability was assessed with intraclass correlation coefficients (ICC), Bland-Altman analysis, within-subject coefficient of variation (CVw), and repeatability coefficients (RC).

Results: MBSS-T1 had mean±std T1 values of 1127.72±99.33 (BH) and 1049.60±92.41 (FB). The scanner-based method yielded 1230.69±78.71 (BH) and 1131.60±88.78 (FB), while uncorrected data showed 1195.44±71.56 (BH) and 1099.92±101.87 (FB). MBSS-T1 showed superior repeatability compared to scanner-based motion correction and uncorrected data. Under breath-hold, MBSS-T1 had an ICC of 0.953 (excellent), vs. 0.829 (good) for scanner-based and 0.804 (good) for uncorrected data. In free-breathing, MBSS-T1 outperformed with an ICC of 0.636 (moderate), compared to 0.531 (moderate) for scanner-based and 0.240 (poor) for uncorrected data. MBSS-T1 also had the lowest CVw and RC: 3.6% and 14.2% (breath-hold), and 5.1% and 19.9% (free-breathing). Bland-Altman analysis showed narrower limits of agreement for MBSS-T1.

Conclusions: MBSS-T1 improves myocardial T1 mapping reproducibility compared to standard motion correction and uncorrected data. It shows significant improvements under breath-hold conditions and enhances repeatability in free-breathing acquisitions. These results suggest MBSS-T1 could improve cardiac MRI reliability, especially for patients unable to perform breath-holds.

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DETECTION OF ADRENAL ANOMAOUS FINDINGS IN SPINAL CT IMAGES USING MULTIMODEL GRAPH AGERGATION

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Background: Lumbar spine CT scans, routinely performed for low back pain, often include portions of the upper abdomen and adrenal glands. As radiologists focus on spinal pathology, incidental adrenal lesions — including potentially malignant ones — may go unnoticed. Early detection of these findings can significantly alter patient management and outcomes.

Methods: We developed an automated aid designed to flag suspicious adrenal lesions on spine-focused CT scans. The system operates in four steps: (1) selects only slices containing the adrenal region, (2) identifies suspicious lesions in those slices, (3) combines findings across slices to reach a patient-level decision, and (4) presents the suspected lesion's location. The dataset included 1,250 lumbar CT scans from Soroka Medical Center, all reviewed and annotated by expert radiologists, with bounding boxes marking normal and abnormal adrenal glands.

Results: Suspicious adrenal lesions were present in 9.76% of scans. The system achieved an area under the ROC curve (AUC) of 0.868, a positive predictive value of up to 67% (seven-fold enrichment over baseline prevalence), and a negative predictive value of 94.4%, reducing the risk of missed lesions by 42%. Localization accuracy, measured by intersection-over-union (IOU), averaged 0.41 for left and 0.52 for right adrenal lesions, with higher right-sided accuracy due to greater representation in the dataset.

Conclusions: This tool enables opportunistic detection of adrenal lesions from standard lumbar CT scans, without additional imaging. It can serve as an automated screening aid to help radiologists reduce workload, improve detection rates, and accelerate patient care. The same approach can be extended to other abdominal organs and possibly imaging modalities, including MRI

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AI-BASED PREDICTION OF ORGAN AND TUMOR DOSIMETRY IN PRRT USING PRETREATMENT PET/CT

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Background: Peptide receptor radionuclide therapy (PRRT) is an established treatment for patients with neuroendocrine tumors (NETs). Accurate prediction of radiation absorbed dose (AD) to organs and tumors following PRRT is crucial for optimizing therapeutic efficacy while ensuring organ safety. However, current methodologies are labor-intensive and provide dosimetric information after treatment administration only. Pretreatment PET/CT, routinely performed for patient selection, offers a potential non-invasive basis for early prediction of ADs. This study aimed to evaluate the use of artificial intelligence (AI) models applied to pretreatment PET/CT for predicting organ and tumor dosimetry, thereby supporting more personalized treatment planning.

Methods: We retrospectively analyzed 50 NET patients who underwent pretreatment ^{68}Ga-DOTATATE PET/CT followed by PRRT. Organs at risk (kidneys, spleen) were segmented automatically, and tumors semi-automatically, using clinical imaging software. Standard uptake values (SUV) and activity concentrations were extracted from PET/CT and served as input features for machine learning algorithms. ADs were estimated by a validated simplified dosimetry approach and used as output labels. Multiple AI models were trained (80%) and tested (20%) to optimize prediction performance.

Results: The best results were obtained with a hybrid approach: Random Forest Regression for feature selection combined with multiparameter linear regression for final prediction. Correlations between predicted and measured absorbed doses were R=0.45 for kidneys, R=0.74 for spleen, and R=0.98 for tumors. Importantly, this work presents the first AI-based framework for spleen dosimetry prediction.

Conclusions: Our findings demonstrate the feasibility of leveraging pretreatment PET/CT and AI to predict both organ and tumor dosimetry in PRRT. This approach could enable radiologists and oncologists to integrate predictive dosimetry into clinical workflows, supporting safer and more personalized PPRT treatment planning. Future research with larger datasets may expand predictive capabilities across additional organs and refine accuracy, further enhancing the role of AI-driven imaging biomarkers in theranostics.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON RADIOLOGICAL REPORT TURNAROUND TIMES AND DIAGNOSTIC ACCURACY

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Background: The growing volume of medical imaging studies requires solutions to optimize workflows and reduce diagnostic delays. Artificial intelligence (AI) has emerged as a promising tool to triage critical cases. This retrospective study evaluated the impact of an AI algorithm on radiological efficiency and accuracy at Assuta Hospital, a high-volume elective center without an emergency department, focusing on intracranial hemorrhage (ICH).

Methods: The study analyzed 5,048 non-contrast head CT scans. AI performance was assessed against radiologist reports (reference standard) and technician classifications. Efficiency was measured by the reduction in median wait times, calculated from scan acquisition to initiation of report dictation. Diagnostic accuracy was evaluated using sensitivity and specificity for ICH detection

Results: The AI system significantly reduced waiting times for positive ICH cases. In 2024, the aggregated reduction in unnecessary diagnostic delay was 1,505 hours, derived by multiplying the median wait time improvement by the total number of positive patients. The algorithm showed high diagnostic accuracy, with a sensitivity of 89.9% and specificity of 99.0%. Importantly, it identified 21 positive ICH cases missed in radiologists' reports, representing a 14.2% enhancement in detection. Technicians' triage performance for urgent cases was also measured against the AI. In this comparison, the AI achieved 100% sensitivity and 90.9% specificity compared to the Ground Truth, while the technicians achieved 66.7% sensitivity and 98.8% specificity, underscoring the AI's superiority in prioritizing urgent cases.

Conclusions: Integrating AI into radiological workflows provides substantial benefits beyond efficiency gains. In the unique context of an elective hospital without an emergency department, the system accelerated reporting of critical findings and enhanced diagnostic accuracy by detecting overlooked pathologies. AI thus represents a valuable safety net, supporting radiologists and technicians in delivering faster, more accurate, and equitable care.

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AUTOMATED RADIOLOGY REPORTS: A SYSTEMATIC REVIEW OF LARGE LANGUAGE MODELS AND CLINICAL UTILITY

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Background: Large language models (LLMs) and vision-language models (VLMs) have emerged as potential tools for automated radiology reporting. However, concerns regarding their fidelity, reliability, and clinical applicability remain. This review aims to identify benefits, limitations, and key factors influencing the quality of AI-generated reports.

Methods: We conducted a systematic search of MEDLINE, Google Scholar, Scopus, and Web of Science to identify studies published between January 2015 and July 2025. Studies evaluating VLM/LLM-generated radiology reports were included. The study follows PRISMA guidelines. The study is registered with PROSPERO (CRD 42025647882). Risk of bias was assessed using the Quality Assessment of Diagnostic Accuracy Studies (QUADAS-2) tool.

Results: Fifteen studies met the inclusion criteria. Four (27%) assessed vision-language models (VLMs) that generate full radiology reports directly from images, whereas eleven examined large language models (LLMs) that summarize textual findings into radiology impressions. Six studies (40%) evaluated out-of-the-box (base) models, and nine (60%) analyzed models that had been fine-tuned. Twelve investigations (80%) paired automated natural-language metrics with radiologist review, while three relied on automated metrics alone. Fine-tuned models demonstrated better alignment with expert evaluations. Kendall's τ for radiologist-model agreement rose from ≈ 0.30–0.35 with base models to 0.48–0.64 after fine-tuning, and achieved higher natural-language metrics (median ROUGE-L F1 improved from 0.31 to 0.47, BLEU-4 scores increased by 4–10 percentage points, and BERTScore-F1 increased from 0.38 to 0.46). All LLMs showed hallucinations, misdiagnoses, and inconsistencies.

Conclusions: LLMs show promise in radiology reporting. However, limitations in diagnostic accuracy and hallucinations necessitate human oversight. Future research should focus on improving evaluation frameworks, incorporating diverse datasets, and prospectively validating AI-generated reports in clinical workflows.

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HYDROHEMATOSALPINX IN PELVIC ENDOMETRIOSIS: MRI AND ULTRASOUND DIAGNOSIS WITH SURGICAL CORRELATION

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Background: Hydrohematosalpinx is a common manifestation of pelvic endometriosis and can be detected on ultrasound or MRI. This study aimed to evaluate the imaging characteristics of hydrohematosalpinx and assess the correlation with intraoperative findings in patients with confirmed endometriosis.

Methods: The retrospective study was conducted at Shamir Medical Center and included women with endometriosis who underwent both transvaginal ultrasound (TVUS) and pelvic MRI, with at least one modality demonstrating hydrohematosalpinx. All imaging examinations were re-evaluated by a senior radiologist and a TVUS-expert gynecologist, with special focus on features of endometriosis and hydrohematosalpinx. Imaging findings were correlated with demographic and clinical data and compared with intraoperative results when available.

Results: From the outpatient endometriosis database, 31 patients met the study criteria (mean age 39 years, IQR 33–44). The interval between MRI and TVUS ranged from 0 to 43 months (mean 7.2 months). Most patients reported both chronic pelvic pain and infertility (41.9%). Hydrohematosalpinx was identified in 22 cases on TVUS and in 25 cases on MRI; 16 cases were detected by both modalities. Surgical confirmation was available in 12 patients, with hydrohematosalpinx verified in 8 and absent in 4. The most common imaging feature was the “waist sign” on MRI (67.7%). All patients were simultaneously diagnosed with endometriomas.

Conclusions: TVUS and pelvic MRI are valuable tools for diagnosing hydrohematosalpinx in the setting of deep pelvic endometriosis. Both modalities provide complementary information that supports diagnosis and assists gynecologists and surgeons in treatment planning and optimizing patient management.

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THE ROLE OF PSA DENSITY AND BIOPSY HISTORY IN PREDICTING CLINICALLY SIGNIFICANT PROSTATE CANCER.

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Background: Prostate-specific antigen density (PSAD) is an established biomarker for predicting clinically significant prostate cancer (csPCa). Its role is particularly important when MRI findings are equivocal, such as PI-RADS 3 lesions. However, the predictive performance of PSAD may vary by biopsy history, which has not been systematically evaluated.

Objectives: To evaluate whether the predictive performance of PSA density (PSAD) differs between patients without prior biopsy (biopsy-naïve) and those with repeat biopsy.

Methods: We retrospectively analyzed 481 men who underwent prostate MRI and biopsy between 2013–2023. Patients were stratified by biopsy history: biopsy-naïve (n=209), repeat biopsy 1 year (n=61), and repeat biopsy 1 year (n=211). Predictive accuracy of PSAD, PI-RADS, age, and prostate volume for csPCa (Gleason ≥7) and any prostate cancer (Gleason ≥6) was assessed using ROC analysis and logistic regression. An exploratory hereditary-risk BRCA cohort was also analyzed separately, reflecting a non-standard clinical indication.

Results: PSAD and PI-RADS were the strongest predictors of csPCa across the cohort (AUC=0.77 each), outperforming age (AUC=0.61) and prostate volume (AUC=0.30). In biopsy-naïve patients, PSAD performed best (AUC=0.80). In repeat biopsy 1 year, predictive value was moderate (AUC=0.70-0.75), while in repeat biopsy 1 year, performance declined (AUC=0.66). In PI-RADS 3 subgroup (n=111), PSAD provided the highest discriminative ability (AUC=0.84), surpassing other variables.

Conclusions: PSAD is the strongest predictor of prostate cancer compared with PI-RADS, prostate volume, and age. Its predictive value was greatest in biopsy-naïve patients, weaker in recent repeat biopsy cases, and lowest in patients with repeat biopsy 1 year. Associations were consistently stronger in PI-RADS 3 lesions, supporting existing literature that recommends incorporating PSAD into biopsy decision-making. These findings indicate that PSAD provides the greatest diagnostic value in biopsy-naïve patients, while in repeat-biopsy settings, particularly after one year, it should be interpreted with caution.

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RADIOGRAPHERS' ENGAGEMENT IN PATIENT SAFETY ACROSS ASSUTA MEDICAL CENTERS

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Background: Assuta Medical Centers perform approximately one-third of all imaging procedures in Israel. Despite the high volume and diversity of procedures, a strong emphasis is placed on maintaining high-quality care and ensuring patient safety. As part of an ongoing commitment to risk management and safety improvement, radiographers' perspectives on training, refreshers, and incident reporting were assessed.

Our objective is to evaluate the awareness, training, and involvement of radiographers in patient safety practices across Assuta`s imaging departments, and to identify areas for improvement.

Methods: Between September 2024 and February 2025, an online survey was distributed to radiographers across Assuta sites. 146 radiographers responded. The questionnaire included closed and open-ended questions regarding safety training, periodic refreshers, incident reporting, feelings of personal blame, and perceived management involvement.

Results: 84% received risk management training prior to starting their role.
88% reported participation in periodic safety refreshers.
89% stated they are regularly updated on safety events within their unit.
75% personally reported at least one safety incident or near miss in the past six months; 30% reported more than five incidents.
Only 17% felt that errors are held against them.
72% perceived management as being actively involved in patient safety efforts.
Conclusions:
The findings reflect a high level of awareness and engagement with patient safety among radiographers. The high rate of voluntary incident reporting suggests an organizational culture that promotes transparency, accountability, and learning from errors. The low sense of personal blame indicates a supportive, non-punitive environment.

Conclusions: Foster a culture that encourages incident reporting and open discussion of mistakes for shared learning.
Increase management engagement through open dialogue with staff, feedback on reports, and sharing selected cases for system-wide learning.
These actions are expected to enhance individual and collective responsibility, improve care quality, and further promote patient safety across the network.

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A NATIONAL MULTIDISCIPLINARY SURVEY ON THE RADIOLOGY REPORT AND RADIOLOGIST-PHYSICIAN COMMUNICATION

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Background: The radiology report is the primary product of diagnostic radiology with significant impact on patient management. There is considerable variability in reporting methods across institutions and personal preferences. Few studies have examined physician preferences regarding radiological interpretations, and fewer have reported differences among various medical disciplines. This study aimed to evaluate preferences regarding the radiology report and communication patterns between radiologists and physicians.
Some of the data were previously presented in part during a panel discussion. Here, they will be presented in a complete and comprehensive manner.

Methods: A national, multidisciplinary survey with two separate anonymous questionnaires was constructed for radiologists and referring physicians. Questions addressed report format preferences, terminology interpretation, use of classification systems, follow-up recommendations, and communication patterns. Responses were analysed using SPSS v30.0, with comparisons drawn across specialties.

Results: The survey was completed by 1,005 physicians: 188 radiologists, 594 medical physicians, and 223 surgical physicians. The expanded structured report format was most preferred across all groups (46-61%). Use of classification systems was favoured by 74% of all participants. Critical gaps in terminology interpretation were identified: e.g. ambiguous terms like "nonspecific" was considered probably benign by 52% of radiologists but undetermined by 49% of referring physicians. Most physicians (86%) agreed follow-up recommendations should specify both modality and timing. Major communication gaps existed: While 72% of non-radiologists reported reading full reports, only 10% of radiologists believed they did. For direct contact, near-universal agreement existed for emergency findings (98-99%) but significant differences emerged for unclear findings (36% radiologists vs 56-58% referring physicians wanting contact).

Conclusions: Substantial discrepancies exist between radiologists and referring physicians regarding report content and communication expectations. Gaps in understanding ambiguous terminology may affect patient care. Our findings, from the largest published survey of its kind, highlight the need for standardized guidelines and communication strategies.

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CORONAL DIFFUSION-WEIGHTED IMAGING AS A TIME-EFFICIENT ALTERNATIVE TO AXIAL IMAGING IN MR ENTEROGRAPHY

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Background: Magnetic resonance enterography (MRE) is widely used to evaluate inflammatory bowel disease (IBD), employing diffusion-weighted imaging (DWI) as an important sequence. While axial DWI is commonly performed, coronal acquisitions may reduce scan time and better align with other coronal MRE sequences. This study aimed to determine whether coronal DWI provides diagnostic performance comparable to axial DWI.

Methods: In this single-center retrospective study, 24 adult patients who underwent MRE between February and July 2025 with both coronal and axial DWI were included. Two independent readers scored each sequence for overall quality, artifact severity, and preference using a 5-point Likert scale. Scores were dichotomized for analysis ("coronal equal or better" vs. "worse"), and inter-reader agreement was assessed with Cohen's κ. Scan times for each sequence were collected.

Results: Coronal DWI was rated as equal or better than axial DWI in 70.8–75.0% of cases for sequence quality (κ = 0.474; 95% CI: 0.080–0.867), and in 58.3–62.5% of cases for artifact burden (κ = 0.256; 95% CI: −0.140–0.652). Coronal DWI was preferred or considered equivalent in 79.2–87.5% of cases (κ = 0.111; 95% CI: −0.326–0.548). Acquisition times for coronal sequences were substantially shorter than for axial, averaging ~3 minutes compared to ~10 minutes.

Conclusions: Coronal DWI may provide comparable image quality and artifact performance to axial DWI in MRE, with shorter acquisition times. Therefore, coronal DWI may serve as a time-efficient alternative in routine MRE protocols.

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PRACTICAL ANATOMY IMAGING COURSE: A NEW INTERACTIVE EDUCATION PILOT – PRELIMINARY RESULTS

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Background: Despite growing use of supportive learning tools in medical education, a practical imaging anatomy course for second-year preclinical students was lacking.

Purpose: Hadassah Medical Center and the Hebrew University piloted a course to help students identify and understand anatomical structures and their spatial relationships in cross-sectional imaging early in their training.

Methods: From October 2024 to July 2025, a two-semester curriculum was delivered by a senior radiologist. The first semester covered thorax, abdomen, pelvis, and limbs; the second focused on head, neck, and neuroanatomy. Monthly sessions were held in the dissection lab using a portable radiology station. Students received preparatory PowerPoint presentations and frontal lessons with labeled imaging slides. In small groups, they participated in 20-minute simulations using CT and MRI images from the IMAIOS e-Anatomy Atlas. Sessions included briefings and guidance on identifying anatomical structures. Student feedback was collected throughout the year.

Results: 277 students in 25 groups participated in 18 dissection sessions and 3 frontal lessons. Most reported improved understanding of anatomy and imaging modalities. Feedback praised the interactive format and real-time simulations. Students showed increased mastery of imaging concepts, reflected in more advanced exam questions and growing use of IMAIOS software.

Conclusions: This pilot fostered a supportive, hands-on learning environment, enhancing students' confidence in interpreting cross-sectional imaging. It is expected to improve their ability to integrate anatomical knowledge into clinical practice and their understanding of cross-sectional imaging.

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AI-GUIDED CT WINDOWING IMPROVES RENAL LESION CONSPICUITY: A MULTI-READER, MULTI-PHASE STUDY

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Background: The use of AI in CT image reconstruction may enhance image quality and facilitate pathology detection. We assessed and compared the visualization of focal renal lesions and parenchyma among conventional images and five AI-generated reconstructions

Methods: Twenty CT examinations performed on the Incisive Philips CT scanner, each demonstrating a solid or cystic focal renal lesion, were retrospectively evaluated. All evaluations included at least two phases—non-contrast and post-contrast (corticomedullary, nephrographic, or urographic). For each case, a representative conventional image and five AI-generated reconstructions (standard, sharp, sharper, smooth, smoother) were displayed side-by-side in a standardized PowerPoint format. Six radiologists (three seniors, three residents) independently ranked these image sets for lesion conspicuity and parenchymal detail. Friedman tests assessed overall differences; pairwise Wilcoxon tests with Bonferroni correction compared: (1) conventional vs. standard and (2) standard vs. smooth/smoother for lesion type, acquisition phase, and senior–resident differences. Cohen's d measured effect sizes; Kendall's W assessed interobserver agreement.

Results: Significant differences were observed across all phases of contrast and evaluation aspects (χ^2=124–153, p10^{-25}). Standard AI preset was preferred over conventional images in 86% of evaluations for both lesion and parenchyma evaluation (p0.001, d1.8). Smooth and smoother reconstructions were consistently preferred over the standard preset, with smooth rated higher in 98% of evaluations (p0.001, d1.3). Interobserver agreement was excellent (W≈0.82), with no significant differences found between seniors and residents (p0.3).

Conclusions: Manufacturer standard AI-generated reconstructions significantly improve renal lesion and parenchymal visualization compared with conventional images, but are consistently outperformed by smooth and smoother reconstructions. Benefits are observed for both residents and senior radiologists, supporting adoption of AI-guided windowing for more accurate and consistent CT interpretation.

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THE ROLE OF ULTRASOUND IN BLUNT PANCREATIC TRAUMA IN CHILDREN

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Background: Pancreatic trauma in children is rare but clinically significant. Contrast-enhanced CT (CECT) is the diagnostic gold standard, while ultrasound (US) serves an important role in follow-up and guiding interventions.
Objective: To evaluate the contribution of focused high-resolution pancreatic US as an adjunct to CT in the diagnosis, follow-up, and management of blunt pancreatic trauma in children, with emphasis on monitoring short- and long-term complications.

Methods: This single-center retrospective study included children under 18 years with blunt abdominal trauma and suspected pancreatic injury, who underwent an initial CECT and at least one US examination during hospitalization. The study period was 2013–2025. Of 695 children with blunt abdominal trauma, 395 underwent CECT, and 10 were diagnosed with pancreatic injury. An additional 1–2 patients were referred from other hospitals, resulting in 13 children included in the cohort (two were excluded due to lack of sonographic follow-up). Data collected included demographics, mechanism of injury, CT grading (AAST), US findings, interventions, and outcomes.

Results: The mean age was 7 years, with male predominance. The most common mechanism was bicycle-related trauma. All patients had high-grade injuries on CT. Initial US detected pancreatic hematomas in 8 patients and provided information on ductal integrity. Serial US follow-up identified peripancreatic fluid collections in 7 children, 3 of whom required US-guided drainage. US was instrumental in monitoring complication evolution, visualizing pancreatic stents, and detecting long-term sequelae such as focal parenchymal atrophy and ductal strictures in 4 children.

Conclusions: Focused pancreatic US is a valuable adjunct to CT in pediatric blunt pancreatic trauma. Its main advantage lies in providing safe, repeatable assessments for early detection and monitoring of complications, guiding percutaneous interventions, and evaluating long-term ductal and parenchymal changes, while reducing radiation exposure and improving patient care.

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THE PERFORMANCE AND VALUE OF CT GASTROGRAPHY AS COMPARED WITH PATHOLOGY IN TNM STAGING AND DIAGNOSIS OF METASTATIC PATTERN FOR LYMPH NODE OF GASTRIC CANCER

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Background: Gastric cancer is among the most prevalent malignancies worldwide and ranks third in cancer-related mortality. Accurate preoperative TNM staging is pivotal for determining the appropriate therapeutic approach, especially with the growing adoption of minimally invasive surgical and endoscopic treatments. While endoscopic ultrasound (EUS) has long served as a reference tool for assessing tumor depth (T stage) and regional lymph node involvement (N stage), it is limited by invasiveness, operator dependency, and reduced accuracy in advanced tumors. In contrast, multidetector computed tomography (MDCT) with a dedicated gastric protocol presents a non-invasive alternative with promising diagnostic potential. The study aim is to evaluate the accuracy, sensitivity, and specificity of gastric-specific MDCT gastrography in assessing T and N staging in gastric adenocarcinoma, as compared to EUS and final histopathology.

Methods: This retrospective study included 22 patients who underwent D2 gastrectomy for gastric adenocarcinoma at Kaplan Medical Center between July 2020 and December 2024, with preoperative gastric-specific MDCT. CT findings were compared to pathological and EUS staging. Lymph node mapping followed the Japanese classification. Imaging interpretation was performed independently by three experienced radiologists.

Results: MDCT demonstrated an overall accuracy of 86.3% ,sensitivity 81.8%, specificity 90.9%; Kappa = 0.587 for T staging and accuracy of 81.8%, sensitivity 75%, specificity 90%; Kappa = 0.639 for N staging. EUS yielded lower accuracy: 50% for T staging and 78.6% for N staging, with lower agreement values (Kappa = 0.275 and 0.533, respectively).

Conclusions: MDCT gastrography using a gastric-specific protocol outperformed EUS in preoperative TNM staging and may represent a reliable, non-invasive alternative Future prospective studies are warranted to validate its role as a potential replacement for EUS in clinical practice.

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INCORPORATION OF A NOVEL CT MACHINE IN A BUSY HOSPITAL - A TECHNOLOGIST'S PERSPECTIVE

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Background: The integration of a new technology into a busy radiology department presents operational and clinical challenges. At Sheba Medical Center, we recently implemented a novel photon-counting CT (PCCT) system (Naetom Alpha, Siemens Healthineers). We aim to describe the implementation process from the perspective of radiologic technologists, highlighting key challenges and solutions in areas such as workload management, staff training, and routine operations.

Methods: During the initial phase, we had to maintain full service for both inpatients and outpatients while gradually transitioning to the new system. We later had to integrate the new PCCT scanner, while continuing to provide full service to an 1800 bed hospital.

Results: Training was divided into three phases: a group of "super-users" (radiologists and technologists) received in-depth off-site training prior to installation; the remaining staff participated in a one-day theoretical and simulator-based session; and a final phase of on-site training included direct supervision and documentation of scan types performed. Although scan protocols were preset during training, they required further adjustment during real-life application through close collaboration between radiologists, technologists, and vendor application specialists.

In order to achieve full service, during and after PCCT was installed, patients requiring CT scans were redirected to additional machines throughout the hospital and outpatient volumes were temporarily reduced by 30%. Radiologists also took a more active role in triaging requests to reduce unnecessary scans.

As the number of PCCT exams increased, so did feedback from radiologists, prompting ongoing protocol refinement. We continue to optimize workflow and explore the full capabilities of the PCCT system.

Conclusions: Our experience underscores the importance of early preparation, phased training, and multidisciplinary collaboration as essential elements for the successful adoption of advanced imaging technologies.

Parallel Session 10: Interventional Radiology

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EARLY VENOUS ENHANCEMENT ON CT ANGIOGRAPHY IN LOWER-EXTREMITY TRAUMA: ASSOCIATIONS WITH TOURNIQUET USE AND VASCULAR INJURY

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Background: Early venous enhancement (EVE) on arterial-phase CTA has uncertain significance in traumatic lower-extremity injuries. This study evaluated its clinical relevance in acute trauma cases.

Methods: This retrospective study included adult patients presenting with lower-extremity trauma who underwent CTA within 24 hours of injury between January 2020 and December 2024 at a level I trauma center. EVE was defined as asymmetric enhancement of deep veins on arterial-phase imaging relative to the contralateral limb. Patient demographics, injury characteristics, combat application tourniquet (CAT) use, vascular injuries, and complications were recorded. Multivariable logistic regression was used to identify factors independently associated with EVE.

Results: The study included 101 patients with 154 injured limbs. EVE was identified in 27 limbs (17.5%). All EVE-positive limbs had traumatic findings on CTA. CAT placement was documented in 72 limbs (46.8%) and was significantly associated with EVE (OR = 56.49, 95% CI [3.24–984.70], p = .006). Vascular injury was identified in 10 of 27 EVE-positive limbs, including one arteriovenous fistula (AVF) directly visible on CTA. No additional AVFs were diagnosed later in limbs with EVE but without a visible fistula. Visible vascular injury on CTA was not significantly associated with EVE (OR = 10.52, p = .051). No other clinical or injury-related variables were significantly associated with EVE.

Conclusions: EVE on arterial-phase CTA is significantly associated with prior CAT use but is not independently associated with acute vascular injury. The presence of EVE without a visible vascular pathology, should be interpreted with caution.

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ENDOVASCULAR REVASCULARIZATION IN CAROTID SIPHON OCCLUSIONS: INSIGHTS FROM A THREE-YEAR SINGLE-CENTRE STUDY

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Case Presentation:
This retrospective single-center study evaluates clinical presentation, procedural characteristics, and outcomes of endovascular treatment in 13 patients with acute ischemic stroke caused by carotid siphon occlusion. The average admission NIHSS was 9.6. Six patients underwent aspiration alone, while three received combined aspiration and stent retriever therapy. Balloon angioplasty was used in eight cases, and stenting was required in nine, including one instance involving dual stents. Recanalization, defined as mTICI 2b/3, was achieved in all patients. At 90 days, 69% of patients achieved functional independence (mRS 0–2), with no symptomatic intracranial hemorrhages or vessel perforations. These findings suggest that despite anatomical and technical complexity, carotid siphon occlusions can be effectively treated using an adaptable and comprehensive endovascular strategy with higher than usual recovery rate.

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PERCUTANEOUS MANAGEMENT OF GALLBLADDER PERFORATION: A RETROSPECTIVE COHORT STUDY

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Background: Acute perforated cholecystitis (APC) is a serious complication of acute cholecystitis, often managed by emergency cholecystectomy. However, surgical intervention poses high risks for elderly patients or those with severe comorbidities. Percutaneous transhepatic cholecystostomy (PTC) offers a minimally invasive alternative, allowing temporary stabilization until the patient can undergo surgery. This study evaluates the effectiveness and safety of PTC as a primary intervention in APC patients.

Methods: A retrospective review of patients diagnosed with gallbladder perforation who underwent PTC was conducted, focusing on clinical outcomes over a 24-month follow-up period. Patient demographics, clinical parameters, complications, and post-PTC outcomes were assessed.

Results: Of 30 patients who underwent PTC, 15 stabilized sufficiently to proceed with cholecystectomy, while the remaining patients were discharged following clinical improvement. The mean age of non-operated patients was significantly higher than that of those who proceeded with surgery. Overall, 61.4% of non-operated patients showed substantial improvement. Among both groups, complications were minor and manageable, and long-term follow-up showed continued health stability in most patients treated with PTC alone.

Conclusions: PTC is an effective initial therapeutic option for managing APC in high-risk patients, improving health outcomes and potentially delaying or avoiding surgery. Those treated solely with PTC showed improvement within the 24-month follow-up period. . These findings suggest that PTC could serve as a primary intervention for gallbladder perforation in select critically ill populations.

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BALLOON-OCCLUDED TRANSVENOUS OBLITERATION TECHNIQUES IN THE MANAGEMENT OF VARICEAL BLEEDING

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Background: Variceal bleeding is a common and serious complication of portal hypertension (PHTN). Endoscopic and pharmacologic treatment for bleeding esophageal varices is well established. However, bleeding from gastric and ectopic varices presents a major challenge due to anatomical, physiological and hemodynamic characteristics. Endovascular techniques for the management of variceal bleeding include transjugular intrahepatic portosystemic shunt (TIPS) and transvenous obliteration of varices (TOV).

Methods: A retrospective review of all patients who underwent TOV for treatment of acute variceal bleeding in a tertiary care hospital from 2015 to 2025.

Results: Thirteen patients underwent transvenous obliteration. Anatomical sites for intervention included gastric, small bowel, parastomal and rectal varices. The clinical success rate, defined as cessation of an acute gastrointestinal bleeding episode, for the procedure was 84.6% (n=11). One case (7.7%) was aborted due to intra-procedural hemodynamic instability, and another patient experienced significant rebleeding on the day following the procedure. Additionally, early rebleeding occurred in one patient (7.7%) and necessitated further angiographic intervention. No other procedure-related complications were documented. The overall mortality rate was 46% (n=6) with 2 patients expiring during the index hospitalization and the remaining 4 during long-term follow-up at a median of 18.5 months post-procedure (IQR [interquartile range] 5.5-35.25). None of the patients expired secondary to bleeding as the primary cause of death.

Conclusions: Transvenous obliteration of varices is an acceptable, safe and feasible approach in the management of (acute) variceal bleeding in selected cases, despite poor overall prognosis in this population.

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A RARE CASE OF SELECTIVE BRONCHIAL ARTERY ANEURYSM EMBOLIZATION

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Background: Bronchial artery aneurysms (BAAs) are a rare condition with a reported prevalence of less than 1% of all selective bronchial arterial angiograms[1]. With only a few dozens of cases of BAAs reported in literature, the cause of BAAs remains unknown, nevertheless, they are associated with bronchiectasis in close to 20 % of the cases, as well as other underlaying pulmonary conditions such as silicosis, lung cancer or recurrent infection. They can also be found in high association with systemic vascular diseases such as Rendu-Osler-Weber syndrome2 and cystic fibrosis3.

The risk of rupture is close to 30% of cases, with hemoptysis, chest pain and hemomediastinum as the common presenting symptoms. Therefore, even an incidental BAA, regardless of its size, requires prompt treatment, with endovascular approach being the strategy of choice4.

We wish to present a rare case of a 42 yr female with cystic fibrosis and a proximal 1.5cm bronchial artery aneurysm.

Methods: After super selective catheterization, embolization was performed using coils and liquid embolics.

Results: Excellent radiographic result with complete sealing of the aneurysm.
Conclusions: Endovascular treatment is a safe and effective treatment option for Bronchial Artery Aneurysms

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TRANSARTERIAL EMBOLIZATION IN CHRONIC MUSCOLOSKELETAL PAIN: THE INFLAMMATION-ANGIOGENESIS COMPLEX

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Background: Inflammation-related chronic pain is a common result of musculoskeletal pathologies, including those with quite different etiologies. Neo-angiogenesis may be associated with chronic inflammation and is increasingly understood as a mechanism by which inflammatory and pain mediators reach the affected musculoskeletal (MSK) anatomy, thereby contributing to chronic pain. Trans-arterial embolization (TAE) of these pathologic `neo-vessels` has been shown to significantly improve pain and function scores in knee osteoarthritis and other MSK pathologies.

Methods: Literature review of PUBMED database (2017-2025) regarding TAE for chronic pain in knee osteoarthritis and other MSK pathologies. Short term (3-6 months) self-reported clinical outcomes in 4 patients treated in our institution.

Results: The physiologic rationale, TAE procedure, and short to mid-term outcomes for TAE in MSK pathologies is presented. 3 patients (75%) of patients treated at our institution reported significant pain relief and increased mobility after the TAE procedure at 3-6 months follow up. No major adverse events reported. 1 (25%) minor adverse event involving transient foot sensory deficit spontaneously resolved.

Conclusions: TAE is a promising new treatment option for a variety of MSK pathologies due to a novel understanding of the inflammation-angiogenesis complex.

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MAY THURNER COMPRESSION: A DON'T TOUCH LESION IN PELVIC VENOUS DISORDER?

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Background: Iliac vein or May Thurner (MT) compression is a common anatomic variant where the left common iliac vein is compressed by the right common iliac artery. May Thurner Syndrome (MTS) is a clinical diagnosis whereby MT compression causes lower limb swelling and/or pelvic pain. Pelvic venous disorder (PeVD) is a clinical condition of chronic pelvic pain associated with abnormal venous dilation. It may be caused by physiologic venous reflux or anatomic compression. Patients with PeVD will often have concurrent MT compression on non-invasive imaging. Whether the MT compression is the inciting cause of the patient`s symptomatology, or whether an incidental finding, remains a topic of intense debate amongst venous interventionists.

Methods:10 multiparous or grand-multiparous women with a clinical diagnosis of PeVD and anatomic MT compression were treated with bilateral ovarian vein and internal iliac vein tributary embolization. Treatment of the MT compression with iliac vein stenting was not performed in any patients. Patient reported symptom improvement and subsequent need for iliac vein stenting was recorded at clinic follow up.

Results: 9 of the 10 women (90%) had good improvement in clinical symptoms and did not require iliac vein stenting. 1 (10%) patient had initial clinical improvement but short-term recurrence of symptoms and underwent subsequent iliac vein stenting. No major or minor adverse events occurred.

Conclusion: MT compression is most often an incidental finding in women with PeVD. Iliac vein stenting should be reserved for women with insufficient relief after venous embolization.

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RETROGRADE TIBIALIS ANTERIOR ARTERY APPROACH: A SOLUTION FOR MANAGING FEMORAL ARTERY ACCESS COMPLICATIONS

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Background: Femoral arterial access can lead to complications, including bleeding, pseudoaneurysms, arteriovenous fistulas (AVFs), and dissections. The treatment of these complications is typically performed via contralateral femoral access. For appropriate patients, the tibialis anterior (TA) approach offers a promising alternative, providing distal access with minimal risk of complications.

Methods: A single-center retrospective analysis was conducted. Including 10 patients who underwent endovascular treatment for femoral access complications via a single ipsilateral TA approach. Baseline demographics, procedural characteristics, and outcomes were collected from hospital records. Technical success was defined as catheter advancement proximally to the lesion location, and procedural success as effective treatment of the vascular injury with maintained vessel patency.

Results: All procedures achieved (100%) technical and procedural success. The most common injuries treated were pseudoaneurysms and arteriovenous fistulas (50% each), primarily involving the superficial femoral artery (90%). The median procedure time was 26:30 minutes (IQR: 11:48-43:00), and the median fluoroscopy time was 4:24 minutes (IQR: 2:48-13:54). No reinterventions were required within 30 days.

Conclusions: The single retrograde TA artery approach demonstrates high technical and procedural success, providing an effective alternative for managing femoral access complications. Further multicenter studies are needed to validate these findings and explore long-term outcomes.

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ADRENAL VEIN SAMPLING: A RETROSPECTIVE REVIEW OF 80 PATIENTS AT SHAARE ZEDEK MEDICAL CENTER (SZMC)

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Background: Primary aldosteronism (PA), caused by renin-independent aldosterone secretion, accounts for 5–10% of secondary hypertension. The leading etiologies are unilateral aldosterone-producing adenomas (APA) and bilateral adrenal hyperplasia (BAH). Bilateral adrenal vein sampling (AVS) is the gold standard for distinguishing these, as CT often fails to differentiate APAs from nonfunctioning nodules. Unilateral APA is best treated with adrenalectomy. Bilateral disease requires medical therapy.

We present outcomes of AVS at SZMC.

Methods: We retrospectively reviewed 80 consecutive patients (55 men) with PA who underwent AVS between 2018 and 2025. Sampling was performed via femoral vein access with sequential adrenal and peripheral collections during synthetic ACTH infusion.

Results: Selectivity index of ≥5 times inferior vena cava cortisol demonstrated successful bilateral sampling in 70 (88%) patients. Ten patients had failure to sample one side (R=8, L=2). Of these,6 were correctly diagnosed based on contralateral suppression n=5 or extremely high aldosterone level n=1 for a diagnostic success rate of 76/80 (95%).

Among successful studies, 49 showed unilateral disease (22 right, 27 left) and 27 showed bilateral hypersecretion. Thirty-seven patients with unilateral hypersecretion proceeded to adrenalectomy. Concordance between CT and AVS was poor, with discrepancies in 54% of cases. One significant complication occurred (hematoma with subsequent infarction of adenoma containing adrenal).

Conclusions: AVS at our center demonstrated 95% accuracy in distinguishing APA from BAH and confirmed the limitations of CT imaging in evaluating PA.

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BLEOMYCIN REVERSIBLE ELECTROPORATION: A POTENTIAL GAME-CHANGER IN VASCULAR MALFORMATIONS CARE

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Background: Vascular Malformations (VMs) represent a wide spectrum of mostly congenital defects in the morphology of blood vessels. VMs may be asymptomatic, but may also cause swelling, pain, mass effect on adjacent organs, or cosmetic disturbance. The mainstay of symptomatic VM management is sclerotherapy, a procedure in which a sclerosing substance damages the endothelial lining of the VM, eventually causing scarring and contraction of the lesion. Sclerotherapy, however, demonstrates mixed clinical effectiveness and often requires repeat interventions. Recently, bleomycin`s sclerosant effect has been combined with reversible electroporation, a process in which an electrical charge causes a temporary opening in the endothelial cell membrane. This allows the bleomycin to penetrate the cell in a much higher concentration than standard sclerotherapy alone, thereby multiplying its therapeutic effect.

Methods: Bleomycin reversible electroporation (BRE) was performed in 10 vascular malformations patients. Short and mid-term self-reported clinical outcomes are reported.

Results: The novel procedural and peri-operative management of BRE is discussed.
8 patients (80%) reported significant clinical improvement in pain and/or swelling related to their vascular malformation. No major adverse events reported. 2 (20%) patients experienced minor adverse events, involving skin breakdown; both were managed conservatively with topical antibiotics.

Conclusions: BRE is a novel treatment option for VMs with promising early results. It may represent a significant advancement in treating these very challenging lesions.

Parallel Session 11: Breast Imaging

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CONTRAST-ENHANCED MAMMOGRAPHY-GUIDED BREAST BIOPSY: INITIAL INSTITUTIONAL EXPERIENCE

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Background: Contrast-enhanced mammography (CEM) may occasionally detect enhancing lesions that lack correlations on low-energy images or ultrasound. Traditionally, these "CEM-only" lesions required biopsy under MRI guidance. More recently, contrast-enhanced stereotactic vacuum biopsy (CESB) has emerged as a viable alternative. Herein, we report on our first experience with implementing CESB procedure.

Methods: Since September 2024, CESB has been implemented in our breast imaging center. We performed a retrospective review of the cases, focusing on clinical and technical aspects and illustrated with representative examples. Technical aspects, complications, and histopathological outcomes were evaluated.

Results: During the study period, five patients (mean age, 67.2 years; range, 50–80 years) with suspicious enhancement on recombined CEM images (BI-RADS 4–5) and without mammographic or sonographic correlates underwent CESB. All procedures were performed on the GE Pristina system using a vacuum-assisted biopsy technique in the upright position. All patients had heterogeneously dense breast tissue (BI-RADS density C). Lesion types included three non-mass enhancements and two masses (mean size, 3.0 cm; range, 0.7–10 cm). Technical success was achieved in all cases, with no immediate complications. Histopathologic analysis demonstrated four benign lesions and one invasive ductal carcinoma (IDC).

Conclusions: CESB is a feasible, safe, and accessible procedure that represents a valuable addition to breast imaging services, enabling seamless continuation of the diagnostic work-up within the same modality.

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CORRELATION BETWEEN NIPPLE INVOLVEMENT ON BREAST MRI AND SURGICAL PATHOLOGY, IN BREAST CANCER PATIENTS

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Background: Despite the widespread use of breast-conserving surgery, many breast cancer patients still require total mastectomy. In recent decades, conservative techniques such as nipple-sparing mastectomy (NSM) and skin-sparing mastectomy (SSM) have been developed to improve aesthetic outcomes. A major concern with these procedures is occult involvement of the nipple–areola complex (NAC), which may increase local recurrence risk. Breast MRI is increasingly used to better define disease extent, including detailed assessment of nipple involvement, thereby supporting minimal resection when safe. However, MRI diagnosis of nipple involvement is challenging due to overlap between normal, benign, and malignant findings in both morphology and enhancement.

Our objective was to evaluate the correlation between MRI findings suspicious for nipple involvement and surgical pathology (gold standard) in breast cancer patients.

Methods: This retrospective correlational study included female breast cancer patients who underwent preoperative breast MRI at our institution (2014–2023), with reports indicating nipple involvement or suspicion thereof, followed by mastectomy (total or partial) including the nipple, and available pathology addressing the nipple. MRI features and suspicion levels were reviewed by a fellowship-trained breast radiologist. Histologic and oncologic data were collected, and MRI–pathology correlations were analyzed.

Results: Fifty-eight patients met inclusion criteria. In multivariate analysis, only tumor appearance was significantly associated with pathological nipple involvement: a mass component on MRI increased the risk 3.8-fold (95% CI: 1.8–12.2) compared with cases without a mass. No other variables, such as nipple-to-tumor distance, the dominant mass size, or the total tumor area, showed significant correlation.

Conclusions: In this cohort, only tumor morphology/appearance on MRI correlated significantly with pathological nipple involvement, consistent with literature. Larger studies are needed to validate these findings and guide evidence-based oncologic criteria for selecting candidates for nipple-sparing mastectomy based on imaging.

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HEAD-TO-HEAD COMPARISON OF TWO FDA-APPROVED AI SYSTEMS FOR SCREENING MAMMOGRAPHY

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Background: Artificial intelligence (AI) systems for mammography interpretation are increasingly used, with several FDA-approved tools performing at a level comparable to expert radiologists. However, performance varies between systems, and their optimal role in clinical workflows remains unclear. Direct clinical comparisons are essential to understand their relative strengths, limitations, and impact on practice.

Objective: To compare the diagnostic performance of two FDA-approved AI systems for breast mammography (GENIUS and iCAD) with radiologist readings, and to assess factors contributing to errors and the potential benefit of combining system outputs.

Methods: This retrospective cross-sectional study included 174 consecutive mammography examinations performed at Beilinson Hospital between April and June 2025. Interpretations from both AI systems and the radiologist's report (gold standard) were assessed for agreement, false-positive and false-negative rates, biopsy recommendations. Error patterns were analyzed in relation to breast density, implants, and surgical scars.

Results: A total of 174 screening mammography examinations were analyzed. Correlation between systems: Lesion scores: r = 0.68, p 0.001, Case scores: r = 0.70, p 0.001. Agreement between lesion scores: ±20 points → 61/117 (52.1%), p 0.001, ±30 points → 86/117 (73.5%), p 0.001, case scores: ±20 points → 58/118 (49.2%), p 0.001, ±30 points → 81/118 (68.6%), p 0.001. Error patterns: Disagreements were concentrated in BIRADS 0–2 examinations, particularly among women with dense breasts, implants, or postsurgical scars.

Conclusions: While comparable agreement was observed between the two systems and their overall performance was similar, discordance persisted in challenging examinations. These discrepancies were particularly notable in BI-RADS 0, 1, 2 categories and were further influenced by breast density, implants, and postsurgical changes.

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COMPARATIVE PERFORMANCE OF ULTRASOUND AND MRI IN PREDICTING LYMPH NODE INVOLVEMENT IN BREAST CANCER PATIENTS UNDERGOING UPFRONT SURGERY

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Background: Preoperative evaluation of lymph node (LN) status in breast cancer (BrCa) is limited, as small metastases may not alter nodal size or shape. We assessed the accuracy of ultrasound (US) and magnetic resonance imaging (MRI) in predicting LN involvement in patients undergoing upfront surgery.

Methods: We retrospectively analyzed 298 women with newly diagnosed BrCa surgically treated between 2014–2024 at a single institution with LN sampling. Preoperative US and MRI were assessed; surgical pathology was the reference standard. Demographic, imaging, and pathological variables were recorded. P

Results: Of 298 patients, 62 (21%) had LN involvement (LN+). LN+ patients were younger (mean 54 vs 60 years), more often had palpable masses (56% vs 25%), and larger tumors on mammography (3.7 vs 2.7 cm), US (2.0 vs 1.4 cm), MRI (4.4 vs 3.0 cm), and pathology (3.2 vs 2.0 cm). IDC (82% vs 63%), triple-positive tumors (21% vs 7%), and mastectomy (39% vs 28%) were more frequent (all p0.05). Within LN+ cases, MRI showed nodal enlargement more often than US (n=33,(53%) vs n=24(39%),p=0.20) present with larger tumors (5.3 vs 4.7 cm, p0.05).

Compared to pathology, US showed 24 TP (8%), 218 TN (74%), 18 FP (6%), and 38 FN (13%) with 81% accuracy. MRI showed 33 TP (11%), 206 TN (69%), 30 FP (10%), and 29 FN (10%) with 80% accuracy. Sensitivity was higher for MRI (53% vs 39%, p=0.15), specificity slightly lower (87% vs 92%, p=0.09); neither difference was significant. Subgroup analyses of LN+ patients by tumor type and receptor subtype showed similar results (all McNemar p≥0.05).

Conclusions: US and MRI show similar 80% accuracy for LN staging in BrCa, with about 10% FP. MRI trended toward higher sensitivity, US toward higher specificity. Combined approaches may complement each other and improve assessment.

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THE UTILITY OF PREOPERATIVE BREAST MRI IN ADDITION TO CONVENTIONAL IMAGING FOR ASSESSING DISEASE EXTENT AMONG PATIENTS TREATED WITH UPFRONT SURGERY ACROSS DIFFERENT AGE GROUPS

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Background: Breast Magnetic Resonance Imaging (MRI) is the most sensitive modality for assessing tumor prior to surgery compared to mammography (MG) and ultrasound (US). However, its added clinical value across different age groups remains uncertain. The purpose of this study was to assess the added benefit of preoperative MRI in different age groups.

Methods: This retrospective single-center study included 303 women, 101 in each of three age groups (young 50 yrs, average 50-69, elderly ≥70 yrs) diagnosed with breast cancer between 2014–2024 at Hadassah Medical Center, all with preoperative MG, US and MRI prior to surgery as initial treatment. MRI added value was defined as detection of additional malignant lesions or tumor size at least twice that measured by conventional imaging and MRI disadvantage included false positive (FP) findings leading to unnecessary biopsies or more extensive surgery. Clinical, pathological, and imaging variables were analyzed.

Results: Preoperative MRI added clinically relevant information in 25.7% of patients with no significant difference between the age groups. MRI added value was significantly more pronounced in tumors 5 cm (50% vs. 8.3% in ≤2 cm, p0.001), ILC compared to IDC (49% vs 20%, p0.001). Added value was also more common among women with family history or prior breast cancer and with dense breasts, not reaching statistical significance. FP rate was low (6%).

Conclusions: Preoperative breast MRI provided clinically relevant information for surgical planning in about 30% of patients, similarly across all age groups. Its contribution was most pronounced in women with ILC and in those with large tumors (5 cm). The FP rate was low (6%), and overall, the clinically relevant additional information gained with MRI outweighed the potential disadvantages, regardless of age.

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ASSESSING BREAST MICROCALCIFICATIONS WITH A COMMERCIAL AI SYSTEM IN A DIAGNOSTIC BREAST CENTER

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Background: Breast microcalcifications are early radiological indicators of breast cancer. Their detection and characterization remain challenging and subject to inter-observer variability. Artificial intelligence (AI) decision support systems aim to assist radiologists in identifying suspicious findings. This study evaluated the performance of a commercial AI system (Transpara) in assessing microcalcifications in a diagnostic breast clinic.

Methods: This retrospective study included all patients referred to our unit for stereotactic vacuum-assisted biopsy (SVAB) over 13 months. A total of 88 women were referred. Calcifications were reassessed by both the radiologist and Transpara. Radiologists provided BI-RADS assessments, while Transpara generated risk scores categorized as low (42%), intermediate (43–74%), or elevated (75–98%). Results were compared with biopsy pathology or 6-month mammographic follow-up when biopsy was not performed. One patient was excluded for missing Transpara analysis. Statistical evaluation included descriptive analysis and 2×2 tables, with p0.05 considered
significant.

Results: 90 lesions in 87 patients were analyzed, including two with multiple biopsies. Biopsy was canceled in 8 women. Of the 82 biopsied lesions, 33 (40%) were malignant—mainly ductal carcinoma in situ (DCIS; 19, 23%). 13 (16%) were high-risk (ADH, ALH, or LCIS), and 36 (44%) benign. Transpara categorized 8/90 (9%) lesions as low risk; all were benign (5 on biopsy, 3 on follow-up), yielding a negative predictive value (NPV) of 100%. 40 lesions were intermediate risk, 6 (15%) malignant and 34 (85%) benign. 42 were elevated risk, 27 (64%) malignant and 15 (36%) benign.

Conclusions: Transpara achieved a 100% NPV for lesions classified as low risk and showed higher accuracy in distinguishing malignant calcifications within elevated versus intermediate categories (62% vs. 15%). These findings support the role of AI systems in enhancing radiologists' confidence and guiding patient management in breast imaging.

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ULTRASOUND GUIDED VACUUM ASSISTED BIOPSY AS A PROBLEM-SOLVING TOOL IN A REFERRAL BREAST CANCER CENTER

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Background: Vacuum-assisted ultrasound-guided breast biopsy (VAUB) is a diagnostic and therapeutic technique with advantages over core needle biopsy (CNB). It allows multiple samples through a single insertion, provides high-quality tissue with lower underestimation of malignancy, and permits excision of small benign lesions. In cases of imaging–pathology discordance, VAUB offers a minimally invasive alternative to surgery. Our aim was to assess VAUB as a diagnostic tool in our center.

Methods:We retrospectively reviewed all patients who underwent VAUB at our institution between September 2023 and July 2025. Patient characteristics, biopsy indications, pathology, surgical correlation, and imaging follow-up were analyzed. Diagnostic accuracy was assessed with descriptive statistics with p0.05 applied.

Results: Twenty-five patients underwent VAUB (24 female, 1 male), 12 with known risk factors. Mean age was 57.2 years, and mean lesion size 1.5 cm (median 1.2, range 0.4–4.5). Indications included excision of benign or high-risk lesions (n=14, 56%; 10 papillary, 2 ADH, 2 other) and imaging–pathology discordance (n=11, 44%). Final VAUB pathology showed malignancy in 7 cases (28%), high-risk lesions in 1 (4%), and benign lesions in 17 (68%). VAUB identified 5 malignancies underestimated by CNB. In 4 cases, CNB diagnosed high-risk lesions, but VAUB downgraded them to benign, confirmed on follow-up. In 3 cases, surgery was performed despite benign VAUB results because of suspicious imaging; all were benign, further supporting VAUB. Overall, VAUB spared surgery in 60% (15/25) of patients, with 78% avoidance in the excision group.

Conclusions: VAUB provided excellent diagnostic accuracy and therapeutic value. It detected malignancies missed by CNB, prevented unnecessary surgery, and maintained concordance with finaal pathology in imaging–pathology discordant cases, supporting wider clinical adoption and for larger-scale studies to confirm long-term outcomes.

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INITIAL EXPERIENCE WITH AI IMPLEMENTATION IN A MAMMOGRAPHY PROGRAM: CONCORDANCE WITH RADIOLOGIST ASSESSMENT

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Background: An FDA-approved commercial AI software (Screenpoint Transpara) was recently integrated into our mammography program. The objective of this study was to evaluate our initial experience with its implementation.

Methods: A retrospective analysis was conducted on a random set of 99 consecutive mammograms. The rate at which the AI flagged suspicious findings was assessed and its concordance with radiologist interpretations was investigated. AI performance metrics were classified using the radiologist-assigned BI-RADS score as the reference standard. Additionally, patient and lesion characteristics were summarized. Finally, false positive flagging patterns by the AI were analyzed and categorized.

Results: The cohort included 99 patients with a mean age of 57.5 years. (IQR. 49.2-65.3). Among them, 58 % had a risk factor, mostly due to either a personal or family history of breast cancer. Digital Mammography was the imaging modality used in 90% of cases, and the remaining were contrast enhanced mammography. Breast density distribution was mostly dense categories (76%). Radiologist assessment showed BI-RADS 1/2 in 89% of cases, BI-RADS 3 in 1%, BI-RADS 4/5 in 8%, and BI-RADS 0 2%. The AI system demonstrated concordance with the radiologist's assessment in 82% of cases. Discrepancies were identified in 18%, including the following contributing factors: 6% were due to post-operative scarring or non-grouped calcifications misclassified as suspicious findings and 1% were related to the absence of prior comparative imaging, while the remaining discrepancies were either unexplained or associated with missed mass or calcifications.

Conclusions: The integration of AI software into a routine mammography program was shown to be feasible, with a high rate of concordance observed between AI outputs and radiologist evaluations. Identified discordances were largely attributable to explainable factors such as imaging artifacts and lack of comparison studies. This highlights the potential for refinement and improved performance in future iterations of the software.

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REBOUND ECTOPIC CERVICAL THYMUS MIMICKING LYMPHOMATOUS INVOLVEMENT IN A PATIENT WITH LYMPHOMA: A DIAGNOSTIC PITFALL

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Background: Ectopic thymus is a rare developmental anomaly, most often located along the path of thymic descent from the neck to the mediastinum. In children with lymphoma, FDG-avid cervical lesions are often presumed to represent nodal disease. However, ectopic thymic tissue may demonstrate increased FDG uptake, leading to potential misdiagnosis.

Methods: We report a pediatric patient with recently diagnosed lymphoma who underwent treatment with the DECOPDAC regimen. Post-therapy 18F-FDG PET/CT showed complete metabolic response at all disease sites except for a mildly FDG-avid soft tissue lesion in the left cervical region. Given the oncologic context, this was initially suspicious for residual nodal disease. Targeted high-resolution ultrasound, however, demonstrated a homogeneous, lobulated structure with echotexture and vascularity consistent with thymic tissue. In the clinical context, these findings were compatible with rebound ectopic thymus rather than lymphomatous infiltration.

Results: This case illustrates a diagnostic challenge where physiologic FDG uptake in rebound thymus, particularly when ectopic, may mimic malignant lymphadenopathy on PET/CT. This phenomenon is especially relevant in pediatric oncology patients after chemotherapy, where thymic hyperplasia is a recognized response. Ultrasound was decisive in differentiating thymic tissue from nodal disease, preventing unnecessary biopsy or overtreatment.

Conclusions: Rebound and ectopic thymus should be considered in the differential diagnosis of FDG-avid cervical lesions in children with lymphoma. Multimodal imaging, including ultrasound, can be crucial for establishing the correct diagnosis.

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RADIOLOGICAL PATTERNS IN ENCAPSULATING PERITONEAL SCLEROSIS: CASE REPORT

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Case Presentation: Encapsulating Peritoneal Sclerosis (EPS) is a rare chronic inflammatory condition characterized by a fibrotic layer that encases and fixes the intestines, damaging the myenteric plexus and impairing peristalsis, leading to recurrent intestinal obstruction.

It is most commonly seen as a complication of peritoneal dialysis. Other etiologies include tuberculosis, malignancy, radiation, abdominal surgery or more rarely, idiopathic cases.

Management is usually conservative, reserving surgery for complications. Steroids and tamoxifen have been reported to reduce inflammation and recurrence.

We report a 71-year-old patient with no prior history of peritoneal dialysis who presented with intestinal obstruction. EPS was confirmed intraoperatively.

CT scan demonstrated characteristic findings of EPS:

Conglomeration of bowel loops fixed in the central abdomen with an “accordion” configuration.

Thickened encapsulating layer surrounding the clustered loops.

Encapsulated inter-loop fluid.

Peritoneal-mural calcifications.

Normal mesenteric vessel disposition, distinguishing EPS from internal hernia.

This case highlights the importance of recognizing radiological patterns of EPS to allow early diagnosis and optimize management, avoiding unnecessary surgery and recurrence.

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THE HEART - NOT A BLACK HOLE IN THE CHEST!

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Background: A fatal case of Takotsubo cardiomyopathy (TC) with dynamic left ventricular outflow tract (LVOT) obstruction shortly after pacemaker implantation. Diagnosis was driven by CT and echocardiographic correlation, underscoring the radiologist's role in recognizing rare post-procedural complications.

Methods: An 82-year-old woman with prior atrioventricular nodal reentrant tachycardia (AVNRT) treated with ablation (2019), presented with syncope and Mobitz type II atrioventricular block. She underwent uneventful pacemaker implantation.

Later, she developed acute respiratory distress. CT pulmonary angiography performed to exclude pulmonary embolism, showed no embolus but demonstrated pulmonary edema, apical ballooning, and interventricular septal bulging toward the LVOT, suggestive of TC with dynamic obstruction, possibly from post-implantation septal hematoma (Figure 1). Echocardiography confirmed severe LVOT obstruction with systolic anterior motion of the mitral valve and apical ballooning. Despite targeted therapy, she progressed to refractory shock, multi-organ failure and died several days later.

Results: TC with LVOT obstruction after pacemaker implantation is extremely rare. A catecholamine surge likely triggered TC, while septal bulging contributed to the obstruction. CT provided the initial clues for the diagnosis.

Conclusions: This case illustrates how TC and LVOT obstruction may coexist after pacemaker implantation, creating fatal hemodynamic compromise. Multimodality imaging and radiology–cardiology collaboration are crucial.

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PARASITIC BRAIN INFECTION AS THE INITIAL PRESENTATION OF NEWLY DIAGNOSED HIV IN A YOUNG FEMALE PATIENT

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Background: HIV plays an important role in predisposing immunocompromised patients with low CD4 counts to a variety of opportunistic infections including cerebral toxoplasmosis characterized by basal ganglia lesions and involvement.

Objective: Highlighting the radiological findings of cerebral toxoplasmosis in a previously healthy young patient newly diagnosed with HIV.

Case presentation: A 41-year-old previously healthy female tourist presented to the ER with a frontal headache, dizziness and drowsiness. Two days prior she had a febrile episode up to 38.5° C. Neurological examination was unremarkable.

Initial brain CT revealed a hypodense lesion in the left frontal lobe without significant contrast enhancement raising suspicion for a space-occupying lesion or encephalitis.

LP confirmed HIV infection due to positive viral load and toxoplasma gondii positivity. Laboratory evaluation showed leukopenia, with normal CRP levels.

Subsequent MRI demonstrated a round, irregular lesion without diffusion. While PET-CT showed no pathological FDG uptake. MR spectroscopy revealed reduced choline NAA and creatine levels.

Considering clinical, laboratory and imaging findings, cerebral toxoplasmosis was identified as the most probable diagnosis and intracranial neoplasms were excluded.

Discussion: Although basal ganglia involvement is characteristic of cerebral toxoplasmosis, our patient presented with an isolated frontal lobe lesion. This underscores the need for high clinical suspicion of cerebral toxoplasmosis in immunocompromised patients, even when neuroimaging findings are atypical. Early recognition and integration of radiological laboratory and clinical data are essential to avoid misdiagnosis and guide timely management.

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POPLITEAL VEIN ANEURYSM PRESENTING WITH ACUTE PULMONARY EMBOLISM

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Background: Popliteal vein aneurysm (PVA) is a rare venous abnormality and an uncommon cause of pulmonary embolism (PE). Although infrequent, it carries a high risk of thromboembolic events, often presenting with PE as the first manifestation.

Case Presentation: A 29-year-old previously healthy woman presented with abdominal pain, nausea, vomiting, and recurrent syncope. On admission she was stable, and CT abdomen was unremarkable. In the internal medicine department, elevated cardiac enzymes prompted bedside echocardiography, which showed right ventricular dilation and pressure overload, raising suspicion for PE. CTA chest confirmed multiple bilateral emboli, and anticoagulation was initiated. Doppler ultrasound of the lower extremities revealed an abnormality near the left popliteal vein, and subsequent CT venography demonstrated a markedly dilated popliteal vein with intraluminal thrombus, consistent with a PVA. Due to acute PE and the need for anticoagulation, surgery was deferred. An IVC filter was placed, with elective repair planned after stabilization.

Discussion: PVA is strongly associated with PE. Duplex ultrasound and CT venography are essential for diagnosis. Surgery is the definitive treatment but timing must balance anticoagulation and cardiopulmonary status.

Conclusion: This case highlights PVA as a rare but significant cause of PE. Early recognition and intervention are critical to prevent recurrence and fatal complications.

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CERVICAL SPINE HYDATIDOSIS: AN UNCOMMON MANIFESTATION OF ECHINOCOCCOSIS

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Background: Hydatid disease (echinococcosis) caused by Echinococcus granulosus usually involves the liver and lungs. Bone involvement is rare (<1%), and the cervical spine is an exceptional site. Lesions often mimic neoplasms, delaying diagnosis and risking neurological compromise or systemic spread.

Methods: A 68-year-old patient presented to the Emergency Department with worsening neck pain. An MRI performed about a year earlier had demonstrated a destructive lesion at C6–C7, initially interpreted as chordoma. CT at presentation confirmed an expansile lesion with paravertebral extension, mimicking a neoplasm. The patient underwent anterior cervical approach with C6–C7 corpectomy, decompression, and fusion from C5 to D1. Histopathology revealed parasitic structures consistent with Echinococcus granulosus, confirming hydatid disease.

Systemic imaging later demonstrated a lobulated cystic lesion in the liver. Surgical excision of a hepatic cyst in segment 3 was performed, and Albendazole therapy was initiated. The patient improved clinically following surgery and medical treatment.

Results: This case emphasizes the rarity of cervical spinal hydatidosis and its ability to mimic neoplasms. MRI initially suggested chordoma, and CT at ED presentation confirmed a destructive lesion. Only after surgery was hydatid disease diagnosed. Systemic evaluation revealed hepatic involvement, underscoring the need for thorough imaging. Management requires both surgical decompression and long-term antiparasitic therapy.

Conclusions: Cervical spinal hydatid disease is extremely rare and can closely mimic vertebral tumors. The coexistence of spinal and hepatic involvement highlights the systemic nature of echinococcosis. Early recognition and combined surgical–medical therapy are essential for favorable outcomes.

Tuesday, 28 October 2025
Plenary Session 14: To Err is Human

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FEMORAL NERVE ISCHEMIC INJURY AFTER TRANS-ARTERIAL EMBOLIZATION OF TYPE 2 ENDOLEAK FOLLOWING ENDOVASCUALAR AORTIC ANEURYSM REPAIR

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Case Presentation: 83 year old male underwent endovascular aortic aneurysm repair (EVAR). Aneurysm sac enlarged to 8.3 cm on follow up with suggested type 2 endoleak via the L4 lumbar artery. On angiography, left iliolumbar artery was not definitely communicating with the sac; empiric embolization with micro coils was performed. Right iliolumbar artery communicated with the right L4 lumbar artery and demonstrated competitive flow, suggestive of outflow vessel in the type 2 endoleak.

The right iliolumbar artery was extremely tortuous, and the microcatheter could not be advanced distally into the lumbar artery or aneurysm sac. Embolization was performed from the iliolumbar artery using cyanoacrylate (Magic Glue, Balt Group, Montmorency, France) mixed with ethiodized oil (Lipiodol, Guerbet LLC, Princeton, New Jersey, USA) in a 1:6 ratio. The liquid embolic penetrated multiple branches of the iliolumbar and lumbar arteries, but not the aneurysm sac.

On post operative day 1, patient complained of difficulty raising the right lower limb. Physiotherapy assessed weakness in the right hip flexor muscles and neurology recommended continued physiotherapy for presumed ischemic injury to the right femoral nerve. On clinic follow up in January 2025, patient remains with inability to flex at the hip and is confined to a wheelchair.

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WHEN 10/10 PAIN SPEAKS LOUDER THAN AN INITIAL CT READ

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Background: Acute mesenteric ischemia is a life threatening condition that can be subtle on initial imaging. Discordance between clinical severity and radiologic findings should prompt heightened diagnostic scrutiny.

Case Presentation: A 40 y.o previously healthy male presented with sudden onset of severe RLQ abdominal pain, rated 10/10. He was afebrile, hemodynamically stable with a soft abdomen. Laboratory testing revealed lactate of 3.7 mmol/L. FAST was negative. CT angiography of the abdomen was performed and initially interpreted as unremarkable. Given the discordance between the dramatic clinical picture and the imaging impression, the concern was communicated to the treating physician. Three hours later, the surgeon raised suspicion for SMA thrombosis. Careful review with multiplanar reconstructions revealed a thrombus, previously mistaken for flow artifact.

Conclusion: This case illustrates the importance of correlating clinical severity with imaging and reconsidering subtle vascular findings in discordant presentations.

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SEPTIC PULMONARY EMBOLI SECONDARY TO LEMIERRE'S SYNDROME: A CASE REPORT HIGHLIGHTING THE RADIOLOGIST'S ROLE IN DIAGNOSIS

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Case Presentation: We present a case of a previously healthy 36-year-old male with no known comorbidities, who developed acute neck pain approximately one week after a bacterial pharyngitis. Initial evaluation was performed after progressive neck pain prompted his first emergency department visit. Cervical CT excluded abscess formation, and the patient was discharged. Worsening symptoms led to a repeated CT scan in the ED, which revealed thrombosis and inflammatory changes within the internal jugular vein, consistent with septic thrombophlebitis. The patient was hospitalized.
Shortly thereafter, the patient reported new-onset dyspnea. A chest radiograph demonstrated multiple new bilateral pulmonary nodules not present on imaging six days earlier. These nodules exhibited signs of cavitation. In the absence of other embolic events, notably to the limbs, the findings were suspicious for septic emboli.
This case exemplifies the classical yet under-recognized progression of Lemierre's syndrome, emphasizing the radiologist's crucial role in detecting otherwise unexpected and rapidly evolving pulmonary complications. The appearance of multiple cavitating nodules within both lung fields on chest radiography in the context of internal jugular vein thrombophlebitis and recent oropharyngeal infection is highly suggestive of septic pulmonary emboli. Early recognition facilitates prompt treatment, potentially preventing further systemic embolization and associated morbidity.

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DIRECT HIT: FROM URETHRAL TRAUMA TO DIRECT PUNCTURE

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Background: Pediatric urethral trauma is uncommon, and when complicated by vascular injury it poses major diagnostic and therapeutic challenges. Early recognition of associated vascular lesions is crucial to prevent severe complications and ensure optimal management.

Methods:A 13-year-old boy sustained blunt genital trauma and presented with hematuria, urinary incontinence, and active urethral bleeding. Ultrasonography demonstrated a partial tear of the bulbar-urethra, while retrograde cystography confirmed contrast extravasation. Persistent hematuria and a progressive hemoglobin drop raised suspicion for vascular injury. CT-angiography revealed a pseudoaneurysm arising from the bulbourethral branch of the internal pudendal artery.

Results: Although standard management of such pseudoaneurysms is endovascular transcatheter embolization, an effective but technically demanding and potentially risky in children. In this case, a novel alternative strategy was adopted. Under ultrasound-guidance, direct puncture of the pseudoaneurysm was performed, followed by injection of a Lipiodol–Glubran mixture.
Complete thrombosis and absence of flow were confirmed, achieving definitive hemostasis.

Conclusions: This rare case highlights the pivotal role of multimodality imaging in pediatric urethral trauma. While ultrasound and cystography identified the urethral tear, CT-angiography revealed the concealed vascular complication. Ultrasound-guided direct puncture provided a minimally invasive and effective alternative to transcatheter embolization, reflecting the value of individualized management in complex pediatric vascular injuries.

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RADIOLOGIC CLUES TO TRACHEO-LARYNGEAL CLEFT TYPE 4 IN A PRETERM NEONATE

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Case Presentation: Tracheolaryngeal cleft type 4 is a rare, usually lethal congenital airway anomaly that can present with subtle radiologic clues. We present a female infant born at 33+5 weeks gestation with prenatal suspicion of esophageal atresia and interrupted inferior vena cava. Postnatal evaluation demonstrated hiatal hernia (upper GI series), hemivertebra and right upper lobe atelectasis (radiographs), and mild hydronephrosis (ultrasound).
During surgical repair of the hiatal hernia, the neonate developed severe ventilatory difficulty and persistent air leak. Radiographs demonstrated bilateral atelectasis and abnormal cervical emphysema despite upsizing of the endotracheal tube. Flexible laryngoscopy identified a large posterior communication between larynx, trachea, and esophagus. CT of the neck and chest confirmed a continuous defect extending from the larynx to the distal trachea, establishing the diagnosis of tracheolaryngeal cleft type 4.

From a radiologic perspective, indirect signs such as air leak, persistent atelectasis, and cervical emphysema may reflect rare congenital airway anomalies. CT is crucial for defining the defect and guiding multidisciplinary decision-making. Tracheolaryngeal cleft type 4 is among the most severe and usually fatal malformations. Early radiological recognition is essential for diagnosis, even though effective treatment options are lacking.

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NEONATAL POSTERIOR FOSSA ARTERIOVENOUS MALFORMATION PRESENTING AS FACIAL PALSY: DIAGNOSTIC MIMICRY OF TUMOR

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Background: Posterior fossa arteriovenous malformations (AVMs) in neonates are exceedingly rare. Their atypical presentation and non-diagnostic imaging may mimic neoplastic lesions, delaying accurate diagnosis.

Case Presentation: A 5-week-old male neonate presented with isolated right-sided facial palsy. Initial CT revealed a heterogeneous enhancing posterior fossa lesion with calcifications, suspicious for neoplasm. Subsequent MRI with contrast demonstrated a complex vascular-appearing mass in the right cerebellopontine angle, with flow voids and heterogeneous enhancement, compressing the fourth ventricle. Urgent suboccipital craniotomy and excision were performed. Intraoperatively, a markedly vascular malformation was encountered. Histopathology confirmed AVM. Postoperative MRI showed near-complete resection with marked ventricular decompression.

Conclusions: This case highlights how neonatal posterior fossa AVMs can masquerade as tumors both clinically and radiologically. The unusual presentation with isolated facial nerve palsy and imaging features resembling malignancy underscored the diagnostic challenge. Recognition of subtle vascular clues on MRI may raise suspicion preoperatively. Early surgical management in such cases is critical, not only for life-saving decompression of the brainstem but also for achieving a definitive diagnosis. Clinicians and radiologists should maintain high vigilance for vascular malformations when evaluating posterior fossa masses in neonates, though rarely encountered.

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UNMASKING THE BULL: A RARE CULPRIT BEHIND SPINAL AND ANTERIOR CHEST LESIONS

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Case Presentation: We present the case of a 74-year-old female with chronic back pain, ulcerative colitis, and psoriasis, who underwent chest CT after pneumonia. The scan revealed a paravertebral soft tissue mass with sclerosis of several thoracic vertebral bodies, raising suspicion for malignancy or infection. MRI confirmed sclerotic changes with mass-like paravertebral thickening, and the patient was referred to the emergency department. Laboratory tests there showed mildly elevated inflammatory markers (CRP 17 mg/L, WBC 11,000/μL), and she was hospitalized for further evaluation.

Review of prior imaging from several years earlier demonstrated similar spinal findings with only subtle progression. Additionally, CT showed osteitis, hyperostosis, and hypertrophy of the sternum, medial clavicles, and first ribs around the sternoclavicular and costosternal joints—features highly suggestive of SAPHO (Synovitis, Acne, Pustulosis, Hyperostosis, Osteitis) syndrome. The absence of significant interval change over three years supported this diagnosis, and the patient was discharged for outpatient rheumatology follow-up.

SAPHO is a rare autoinflammatory disorder frequently associated with other immune-mediated diseases. Its variable presentation and radiologic overlap with infection or malignancy often leads to diagnostic uncertainty. Recognition of characteristic imaging hallmarks is crucial to avoid unnecessary biopsies and ensure timely management.

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SEEING THE INVISIBLE: PHOTON-COUNTING CT BONE MARROW APPLICATION REVEALS OCCULT METASTASES

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Case Presentation: Photon-counting computed tomography (PCCT) is a next-generation imaging technology providing higher spatial resolution, reduced noise, and spectral information compared with conventional computed tomography (CT). The NAEOTOM Alpha PCCT scanner installed at Sheba Medical Center, now used routinely in clinical practice, opens the door to new research and abilities. Quantum Peak, a dual energy acquisition method utilized by the PCCT renders a Virtual Non-Calcium (VNCa) series, allowing bone marrow examination, and may enhance the detection of early metastatic disease.

We present the case of a 35-year-old female with sigmoid colon adenocarcinoma, and synchronous liver and nodal metastases, treated with first-line FOLFOX and bevacizumab. On follow-up, she underwent imaging on our PCCT system. The conventional CT series from the same examination revealed no suspicious skeletal findings. However, PCCT VNCa series revealed focal abnormalities highly suggestive of metastases. These lesions corresponded to FDG-avid foci on prior PET-CT, thus confirming metastatic involvement (Figure1).

To our knowledge, this is the first reported case of PCCT detecting metastases not seen on conventional CT. Early detection of skeletal metastases is crucial for accurate staging and management. This case highlights the diagnostic value of PCCT in oncologic imaging.

Parallel Session 16: Musculoskeletal Imaging

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WHOLE-BODY MRI SURVEILLANCE IN LI-FRAUMENI SYNDROME: NINE YEARS EXPERIENCE AT A TERTIARY MEDICAL CENTER

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Background: Whole-body MRI (WB-MRI) is the modality of choice for cancer surveillance in individuals with Li-Fraumeni syndrome (LFS), a hereditary cancer predisposition syndrome. However, real-world data on WB-MRI performance, diagnostic yield, and downstream implications are limited.

Methods: We retrospectively analyzed genetically confirmed LFS carriers under annual surveillance at a tertiary medical center between 2016 and 2024. All WB-MRI reports were reviewed for abnormal findings, and follow-up work including additional imaging, biopsies, diagnoses, and treatments was documented.

Results: A total of 86 patients (53 females, 33 males; mean age 31.4 years) underwent 322 WB-MRI scans (mean 3.74 per patient). Abnormal findings were identified in 56% of patients, totaling 85 abormal findings (26% of scans). 71 (84%) of findings required additional workup: 37 targeted MRI scans (45%), 36 ultrasound evaluations (44%), 4 radiographs (5%), 4 CT scans (5%), and 1 PET-CT (1%). Of the 85 suspicious findings, 10 (12%) underwent biopsy. Most findings (89%) were benign, including bone lesions, liver cysts, and vertebral hemangiomas. Nine malignancies (11%) were diagnosed in nine patients (mean age 25 years): five were new primary tumors (two hepatic sarcomas, one soft tissue sarcoma, two pulmonary adenocarcinomas), and four were solitary metastases in patients with a known localized malignancy. Four malignancies (44%) were detected on the first scan. Of the affected patients, six underwent curative resection, one responded to chemotherapy, and two experienced disease progression.

Conclusions: WB-MRI surveillance in LFS carriers enabled early detection of new primary tumors and metastatic disease in a significant proportion of patients with LFS .

Although the majority of findings were ultimately benign, a substantial number still required further diagnostic procedures to establish their benign nature. Our experience supports the utility of annual WB-MRI as a non-invasive, radiation-free tool in LFS surveillance..

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PHOSPHATURIC MESENCHYMAL TUMOR

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This is a test yourself article that we published in skeletal radiology this year.

Phosphaturic mesenchymal tumor (PMT) is a diagnostic consideration in the differential of tumor-induced osteomalacia (TIO). TIO can be a diagnostic dilemma, especially in patients with undiagnosed primary tumors, which can lead to misdiagnosis and treatment delay.

In PMT, TIO results from overproduction of the phosphatonin, fibroblast growth factor 23 (FGF-23), and results in disruption of bone metabolism through renal phosphate wasting and inactivation of vitamin D. These tumors can be indolent for many years until they start producing FGF-23. As a result, the first presentation is most often that of multifocal and recurrent stress fractures and includes nonspecific symptoms such as muscle weakness and bone pain.

There are less than 500 reported cases of PMT worldwide, and as such, the majority of what is described is derived from case series or reports. Radiologic features are often nonspecific, with the lesion most often presenting as a nonaggressive lytic mass. When occurring in soft tissues, PMT is also often non-specific and can even be occult on CT and MRI, further underscoring the importance of functional imaging. Nonetheless, cross-sectional imaging can be useful for biopsy or resection planning.

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THE VALUE OF VACUUM PHENOMENON ON CT OF THE SACROILIAC JOINTS AS A NEGATIVE IMAGING MARKER FOR INLFAMMATORY SACROILIITIS

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Background: An intra-articular vacuum phenomenon (VP) refers to a gas within a joint, which appears as an area of low attenuation on CT, most often in intervertebral discs but also in other joints such as the sacroiliac joints (SIJs). Limited evidence suggests that the presence of VP within the SIJ (VPSIJ) may serve as a negative imaging marker for inflammatory sacroiliitis.

Our objective was to determine whether the presence of VPSIJ on CT indicates the absence of inflammatory sacroiliitis, using MRI diagnosis of sacroiliitis as the reference standard.

Methods: We retrospectively reviewed patients who underwent both MRI of the SIJs for suspected sacroiliitis and a CT scan including the SIJs, performed within a two-year interval. Traumatic or infectious cases were excluded.

MRI scans were classified for active\structural sacroiliitis per ASAS criteria.

CT scans were evaluated for the presence of VPSIJ, degenerative\mechanical changes and for structural lesions, e.g. erosions and ankylosis.

Results: A total of 67 patients (134 SIJs) met the inclusion criteria (M:F ratio 0.8:1, mean age 46.7 years, range 19–77). Sacroiliitis was identified on MRI in 29 patients (M:F ratio 1.9:1, mean age 44.8 years). The remaining 38 patients without sacroiliitis (M:F ratio 0.4:1, mean age 54.1 years) were significantly older ($p=0.004$) and included more women ($p=0.006$).

Degenerative\mechanical changes were significantly more common in patients with VPSIJ ($p = 0.0215$). VPSIJ was identified in 44.83% of patients with MRI-confirmed sacroiliitis versus 71.05% without ($p=0.04$). The presence of VPSIJ as negative marker for sacroiliitis demonstrated a sensitivity of 71%, specificity of 55% and positive predictive value of 67.5% ($p = 0.0275$).

Conclusions: VPSIJ is less prevalent in patients with MRI-confirmed sacroiliitis and is associated with degenerative or mechanical SIJ changes. However, its relatively low specificity precludes it’s use as a negative imaging marker for inflammatory sacroiliitis.

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ACUTE CLINICAL TMJ OSTEOARTHERITIS SYMPTOMS MAY BE LINKED WITH OSTEOLYTIC CHANGES IN TMJ CBCT

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Background: Temporomandibular joint osteoarthritis (TMJ-OA) is diagnosed through clinical examination and imaging. CBCT imaging can reveal specific joint abnormalities. This study examines the relationship between clinical findings and radiographic features of TMJ-OA cases on CBCT.

Methods: This observational study included patients with TMJ-OA symptoms (joint tenderness, crepitus, and/or limited mobility) with TMJs CBCT scans with positive radiographic findings (sclerosis, osteophytes formation, erosion and/or subchondral cysts) meeting Wilkes's criteria (≥IV). Clinical and demographic data were collected, and CBCT images were independently reviewed by three blinded and calibrated observers using a radiologic scoring tool. Statistical analyses evaluated correlations between clinical symptoms and radiographic features.

Results: The study involved 25 patients (aged 20–80 years), predominantly women (76%), with variable symptoms. Most had restricted mouth opening (10–37 mm), TMJ pain (mean duration 6±8 months), and unilateral clicking. A minority reported jaw locking and crepitus. Age was inversely correlated with mouth limitation (P=0.007). Crepitus was significantly associated with VAS pain scores (P=0.002) and inversely correlated with VAS and pain duration (P=0.002 and P=0.007). Sclerosis, erosion, and osteophyte formation were observed in half of the joints, while subchondral cysts were present in one-third. Inter-observer correlation was fair to good. Except for erosion and osteophyte, all radiographic features correlated with each other and with the total radiographic scoring (P0.001) Erosion and subchondral cysts, each showed correlation with TMJ pain (P=0.076) and clicking (P=0.057), respectively.

Conclusions: Radiographic features are variably demonstrated in TMJ-OA CBCT scans. Crepitus was associated with increased pain and shorter symptom duration, which may indicate aggressive disease progression. Erosions and subchondral cysts were linked to acute clinical signs such as joint pain and clicking, respectively. Future research may examine whether these changes can resolve over time, with or without treatment.

Parallel Session 17: Abdominal Imaging

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CHYLOTHORAX AS THE INITIAL PRESENTATION OF DIFFUSE LARGE B-CELL LYMPHOMA IN AN 86-YEAR-OLD PATIENT

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Background: Chylothorax is an uncommon cause of pleural effusion, resulting from disruption or obstruction of the thoracic duct or its collaterals. Traumatic and non-traumatic etiologies occur with similar frequency, with malignancy—particularly lymphoma—being the leading non-traumatic cause. However, chylothorax as the first manifestation of diffuse large B-cell lymphoma (DLBCL) is rare, especially in elderly patients1.

Methods: An 86-year-old male with hypertension, dyslipidemia, benign prostatic hyperplasia, and chronic kidney disease under follow-up for hypercalcemia presented to the emergency department with diarrhea, urinary retention, and confusion. He was admitted for worsening renal function and hypercalcemia. Initial chest radiograph showed minimal right pleural effusion, which progressed within six days to complete right hemithorax opacification with left mediastinal shift.
CT performed for drain placement confirmed a large right pleural effusion, minimal contralateral effusion, mediastinal and retrocaval lymphadenopathy. Given persistent non–PTH-mediated hypercalcemia, endocrinology suspected multiple myeloma. Whole-body CT (myeloma protocol) excluded myeloma but revealed lytic changes of the right iliac bone with pathologic fracture, an associated soft-tissue mass involving the right iliacus and gluteal muscles, and additional lytic lesions in the right femoral neck and head.
CT-guided biopsy of the iliac lesion confirmed diffuse large B-cell lymphoma. Histology demonstrated large atypical lymphoid cells positive for CD20, CD79a, BCL-2, and BCL-6, with Ki-67 expression in ~50–60%.

Results: This case highlights an uncommon initial presentation of DLBCL as chylothorax with associated skeletal involvement. The diagnostic process was challenging, since the patient's age, renal impairment, and hypercalcemia initially pointed toward multiple myeloma. Radiology was pivotal in narrowing the differential diagnosis, detecting both pleural and skeletal disease, and guiding the biopsy that confirmed lymphoma.

Conclusions: Chylothorax may represent the first manifestation of aggressive lymphoproliferative disorders such as DLBCL. Awareness of this rare presentation, particularly in elderly patients with complex comorbidities, is essential for early diagnosis and appropriate management.

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CULTURAL COMPETENCE: BARRIERS AND FACILITATORS FOR RADIOGRAPHERS

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Background: Cultural competence in healthcare is the ability to provide care that respects patients' diverse values, beliefs, and behaviors, while adapting medical care to their cultural, social, and linguistic needs. Radiographers, like other healthcare professionals, interact with patients from varied backgrounds. Yet, little is known about how cultural competence affects their work. This topic has received little scholarly attention, particularly in Israel, where the population is markedly multicultural.

Objectives: This study explores radiographers' experiences in Israel in encounters with culturally diverse patients, aiming to identify barriers, facilitators, and practices that shape their work, and to raise awareness of the importance of cultural competence in the profession.

Methods: A qualitative design was used. Eleven radiographers from different specialties and cultural backgrounds participated in semi-structured interviews based on an interview guide informed by the literature. Interviews were recorded, transcribed, and analyzed using thematic analysis.

Results: Four themes emerged: (a) The impact of language barriers on the work of radiographers;
(b) Challenges in working within a multicultural radiography team;
(c) Dilemmas faced by radiographers when interacting with patients from diverse populations;
(d) Barriers radiographers encounter in providing quality care to patients from different cultural backgrounds.

While radiographers were often unfamiliar with the concept of cultural competence, many intuitively practiced its principles. Nevertheless, they reported difficulties in providing culturally sensitive care, alongside the presence of biases and prejudices.

Conclusions: Our study highlights the need to foster radiographers' cultural competence awareness, sensitivity, knowledge and skills through training and workforce diversity. Further research is needed to deepen understanding of the barriers and facilitators of radiographers' cultural competence in Israel and aboard.

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GALLBLADDER ADENOMYOMATOSIS REVISITED – DOES SIZE MATTER? IS FOLLOW-UP REQUIRED FOR LARGE LESIONS?

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Background: Adenomyomatosis (ADM) is generally considered a benign condition. However, it can be associated with chronic cholecystitis - a known risk factor for gallbladder cancer. Therefore, studies have proposed follow-up with ultrasound for asymptomatic patients with focal ADM. Currently, there are no formal recommendations regarding the frequency and length of follow-up. The aims of this study were to assess the growth of ADM lesions during follow-up and to examine the differences between larger and smaller ADM lesions.

Methods: 144 patients who underwent MRI-MRCP at our institution between the years 2014-2024 were identified through radiological reports as having a diagnosis of ADM. 43 patients had more than one examination. Demographic, clinical and radiological data were collected retrospectively. We divided the cohort into two groups based on the primary lesion size (axial diameter below or above 1.5 cm) and compared between them.

Results: The group of small lesions included 98 patients and the larger lesions group included 46 patients. We did not find a statistically significant correlation between the size of ADM and the demographic or clinical characteristics examined. None of the lesions showed diffusion restriction. Only 9 ADM lesions grew during follow-up - 6 from the smaller lesions group and 3 from the large lesions group (p0.05). The median follow-up period was 35 months and the median growth was 3 mm in both groups. None of our patients developed cholangiocarcinoma of the gallbladder.

Conclusions: Our results confirm the common hypothesis that ADM are benign lesions that don't present major changes on follow-up. Therefore, we believe that follow-up is not needed for lesions with a clear diagnosis of focal ADM. If follow-up is recommended, it should focus on other radiological characteristics, rather than the size.

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ACUTE NONTRAUMATIC ADRENAL HEMORRHAGE: ETIOLOGY AND IMAGING FINDINGS IN 16 CASES

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Background: Acute non-traumatic adrenal hemorrhage is an uncommon entity, with only few reported case series described in the radiology literature. This study is aimed to review the imaging findings of such cases and to assess whether specific findings can suggest the presence of an underlying tumor.

Methods: We retrospectively reviewed the CT scans and clinical records of 16 patients: 10 men, 6 women, aged 38–93 years whom were diagnosed with acute non-traumatic adrenal hemorrhage. Most of them presented with acute abdominal or flank pain.

Results: Hemorrhage was unilateral in 12 patients and bilateral in 4. None had a previously known adrenal lesion. In all cases, CT demonstrated an adrenal mass with loss of the normal glandular outline.

In 8 cases (4 bilateral, 4 unilateral), the lesion appeared as an ovoid, heterogeneous, non-enhancing mass with smooth margins. Follow-up imaging in 6 cases showed resolution, consistent with hemorrhage alone.

Other two patient with sepsis died shortly after presentation.

Six patients with unilateral hemorrhage also had a massive ipsilateral retroperitoneal hematoma. Three of these demonstrated an enhancing adrenal mass on contrast-enhanced CT; two underwent embolization and one was lost to follow-up. In two others, a mass became evident on follow-up, leading to the diagnoses of non-Hodgkin lymphoma and metastatic melanoma. One patient died soon after presentation without a final diagnosis.

In the last two patients, presented with bilateral adrenal masses with retroperitoneal hematoma in one side, subsequent workup revealed lymphoma and metastatic lung carcinoma.

Conclusions: According to our small study massive periadrenal hemorrhage in the acute setting should raise suspicion for an underlying lesion, even when no enhancing mass is initially detected. Careful follow-up imaging is essential to establish the correct diagnosis.

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THE EFFECT OF AI-BASED RADIOLOGICAL READING ON RADIOLOGY RESIDENTS IN ONCOLOGY FOLLOW-UP

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Background: Artificial intelligence (AI) is increasingly used in radiology to improve efficiency, accuracy, and consistency. While many studies focus on diagnostic performance, the educational impact of AI exposure on radiology residents has not been well explored.

Objective: To evaluate whether exposure to AI-generated liver metastasis reports influences residents' conventional RECIST 1.1 performance.

Methods: In this prospective study, 13 radiology residents assessed 24 pairs (prior and current study) of abdominal CT scans (portal venous phase) with liver metastases, divided into two datasets (D1 and D2; 12 pairs each). Residents performed conventional RECIST 1.1 readings on D1, recording minimum and maximum diameters for the five largest lesions and determining disease status (PR, SD, PD). Their results were then compared to AI-generated outputs, which highlighted measurement and classification discrepancies.

Results: Our analysis showed variability across training levels. Junior residents exhibited ~15% higher measurement discrepancies compared with seniors[סי-SJ1] . Comparisons with AI outputs revealed differences in both lesion measurements and disease-status classification, providing structured feedback to residents.

Conclusions: The study establishes variability in resident performance and provide insights into common discrepancies relative to AI outputs based on resident training level. Future studies may determine whether AI-assisted reading enhances conventional performance and reduces variability, clarifying the role of AI as a potential educational tool in radiology training.

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RADIOLOGICAL DIFFERENTIATION OF APPENDICEAL MUCOCELE FROM ACUTE APPENDICITIS IN ADULTS BY CT

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Background: Appendiceal mucoceles are rare but clinically important lesions, often indistinguishable from acute appendicitis preoperatively. Missed recognition may delay treatment of malignant cases, while misinterpretation may lead to unnecessary invasive surgery. We aimed to identify CT features that reliably differentiate mucoceles from acute appendicitis.

Methods: In this retrospective study, two radiologists reviewed contrast-enhanced CT scans of 228 patients who underwent appendectomy at Soroka University Medical Center between 2016 and 2022. Predefined imaging features were extracted for analysis. Among these patients, 78 were histologically confirmed to have appendiceal mucoceles (40 benign and 38 malignant), while 150 had acute appendicitis. Radiologic features were compared using univariable tests, and potential predictors were evaluated through multivariable logistic regression.

Results: Mucoceles were significantly associated with a longer dilated segment (median 50 mm vs. 43 mm, p = 0.037) and a higher frequency of intraluminal septations (22% vs. 6.3%, p = 0.004). In contrast, they were less likely to show intraluminal air (5.3% vs. 18%, p=0.010), peri-appendiceal fat stranding (74% vs. 95%, p0.001), or intraperitoneal free fluid (41% vs. 62%, p=0.010). On multivariable analysis, the presence of intraluminal septations (OR 9.9, p0.001), absence of fat stranding (OR 0.01, p0.001), and absence of free fluid (OR 0.09, p=0.041) were independently predictive of mucocele.

Conclusions: Intraluminal septations are the strongest positive predictor of mucocele, whereas the absence of peri-appendiceal inflammatory changes and free fluid are inversely associated. Highlighting these features in the radiology report may improve preoperative diagnosis, support optimal surgical planning, and help reduce complications such as pseudomyxoma peritonei.

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CT GUIDED ABLATION – PRESENTING 13 YEARS OF EXPERIENCE

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Background: Thermal ablation has emerged as an established alternative to surgery, especially for patients unsuitable for surgical intervention. Accumulated experience has expanded its use to more complex cases, with low complication rates and rapid recovery.

Objective: To present 13 years of experience by a single radiologist in two medical centers performing CT-guided ablations of renal, hepatic, osseous, and pulmonary tumors, emphasizing efficacy, complications, and complex cases.

Methods: A bi-institutional retrospective review was conducted on 141 percutaneous ablations in 130 patients (91 men, 43 women) performed between 2012–2025. Distribution: 108 kidney, 18 liver, 12 bone, 3 lung.

Results:

· Kidney: 108 ablations in 101 patients (mean age 69, lesion size 0.5–7.3 cm). One repeat ablation was required. Six complications occurred—five resolved spontaneously, one subcapsular hematoma progressed to atrophy and nephrectomy. No further recurrences during follow-up.

· Liver: 18 ablations in 17 patients (mean age 70, lesion size 0.8–6.9 cm). Three complications (technical failure and subcapsular hematomas), none required further intervention. No recurrences.

· Bone: 12 ablations in 10 patients with osteoid osteoma (mean age 19).; one patient required repeat ablation due to recurrence of pain.

· Lung: Three ablations in two patients (mean age 67, lesion size 1.3–6.2 cm). No complication or recurrence observed.

Conclusions: CT-guided thermal ablation is effective, safe, and rapid, with a low complication rate. It provides a valuable alternative when surgery is not feasible, preserves organs (kidney), prolongs survival after other therapies are exhausted (lung, liver), and remains effective even in complex cases, supported by the radiologist's learning curve and accumulated experience.

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COMPUTED TOMOGRAPHY FEATURES OF PELVIC INFLAMMATORY DISEASE CAUSED BY CHLAMYDIA TRACHOMATIS AND NEISSERIA GONORRHOEAE: A RETROSPECTIVE STUDY

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Background: Pelvic Inflammatory Disease (PID), commonly caused by Chlamydia trachomatis and Neisseria gonorrhoeae, is a frequent reason for emergency department visits in young women. Diagnosis can be challenging due to nonspecific clinical signs. While not standard for PID diagnostic workup, Computed Tomography (CT) is often performed for abdominal or pelvic pain, potentially revealing under-recognized features suggestive of PID.

Methods: We conducted a retrospective study of female patients with PCR-confirmed C. trachomatis or N. gonorrhoeae infection who underwent CT for abdominal or pelvic pain. Two radiologists re-reviewed all scans, while aware of the PID diagnosis, assessing for imaging features commonly associated with PID. Statistical analysis compared imaging findings across (1) original vs. retrospective diagnoses, (2) concordant vs. discordant interpretations, and (3) Chlamydia vs. Gonorrhoea cases.

Results: Among 44 patients (median age 29.6), 33 (75%) tested positive for C. trachomatis, 9 (20.5%) for N. gonorrhoeae, and 2 (4.5%) for both. Common findings included fat stranding (84.4%), pelvic fluid (80%), and peritoneal thickening (72.7%). CT signs of PID were retrospectively identified in 77.3%, but only 64.7% were initially suspected as PID in the original interpretation. Tubo-ovarian abscesses (TOAs) were present only in cases correctly diagnosed initially (36.4% vs. 0%, p=0.017). Peritoneal thickening was more common in discordant cases (100% vs. 62.5%, p=0.013). Fallopian tube thickening was significantly more common in chlamydia-related PID (48.5% vs. 11.1%, p=0.013).

Conclusions: CT scans performed for non-PID indications often reveal subtle or nonspecific signs of PID that might be overlooked or misinterpreted. TOAs increased diagnostic accuracy, while subtle findings like peritoneal thickening and enhancement were commonly missed or misinterpreted. Chlamydia-associated PID more frequently showed fallopian tube thickening. Radiologists should maintain a high index of suspicion and carefully assess for subtle CT features to improve PID detection and outcomes, even when not explicitly indicated as the reason for imaging.

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ULTRASOUND SHEAR WAVE ELASTOGRAPHY AND SHEAR WAVE DISPERSION: CORRELATION WITH HISTOPATHOLOGICAL CHANGES IN AUTOIMMUNE HEPATITIS PATIENTS

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Background: To evaluate the correlation between liver viscosity, as measured by shear wave dispersion (SWD), and fibrosis and inflammation in patients with autoimmune hepatitis (AIH). Additionally, to assess its potential as a non-invasive biomarker for hepatic fibrosis compared to shear wave elastography (SWE).

Methods: This prospective study included 25 AIH patients who underwent pre-biopsy SWD and SWE measurements using the SuperSonic Mach 30 system. Liver biopsy samples were assessed for fibrosis using the Scheuer grading system and for inflammation using the modified Hepatic Activity Index (mHAI). Correlations between viscosity, elastography, fibrosis, and inflammation were analysed using Spearman's correlation coefficients.

Results: Viscosity demonstrated a significant correlation with fibrosis stages (Spearman's coefficient: 0.58, $p = 0.002$), while SWE showed a weaker correlation (Spearman's coefficient: 0.50, $p = 0.01$). Viscosity measurements also correlated moderately with the mHAI score (Spearman's coefficient: 0.62, $p = 0.001$). Subgroup analyses revealed weak to moderate correlations between viscosity and mHAI components across fibrosis stages.

Conclusions: Our study suggests that viscosity may be better than SWE as a non-invasive marker for assessing hepatic fibrosis in AIH, particularly in the pre-treatment period when inflammation levels are elevated. However, we could not conclusively determine the relationship between viscosity and hepatic inflammation, as a small sample size limited our findings. Further research with a larger cohort of AIH patients is necessary to better understand the correlation between viscosity and inflammation in this rare condition.

Parallel Session 18: Neuro-Imaging

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OVERLOOKED CLUES: IMAGING PITFALLS AND DIAGNOSTIC DELAYS IN CAROTID CAVERNOUS FISTULAS

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Background: Carotid cavernous fistulas (CCFs) are arteriovenous shunts involving the cavernous sinus, with presentations ranging from overt orbital congestion in direct high-flow fistulas to subtle, misleading symptoms in indirect low-flow types. Delayed diagnosis is common and may lead to irreversible morbidity. This study aimed to characterize clinical and imaging features associated with diagnostic delay.

Methods: We retrospectively reviewed data from 31 patients diagnosed with CCF, including demographics, Barrow classification, symptoms, imaging findings (CT/CTA and MRI/MRA), time to diagnosis, and initial clinical assessments.

Results: Seventy-one percent of patients were female, with a mean age of 61.8 years. Frequent symptoms included diplopia (52%), headache (48%), chemosis (45%), proptosis (36%), and orbital pain (32%). Cranial nerve palsy, primarily CN VI, was present in 39%. Among non-iatrogenic cases, 38% were diagnosed within six weeks, while 34% had delays of 2–6 months and 8% over six months. Initial misdiagnoses included conjunctivitis, thyroid orbitopathy, and sinusitis. Most patients were first evaluated by emergency physicians, ophthalmologists, or family doctors. CT/CTA was performed in 58% and MRI/MRA in 36%. Common CT findings included superior ophthalmic vein (SOV) dilation or asymmetry (75%), cavernous sinus asymmetry (41%), and muscle enlargement (28%). However, CCF was mentioned in only 69% of reports with positive findings. MRI/MRA showed similar imaging findings, but only 43% directly contributed to diagnosis.

Conclusion: CCF diagnosis is frequently delayed despite suggestive imaging. Key radiologic signs, SOV dilation, cavernous sinus asymmetry, and orbital venous congestion, are often overlooked, particularly in patients with new-onset diplopia, orbital pain, or cranial neuropathies . Greater awareness among radiologists and primary care clinicians is essential to recognize various clinical presentations and reduce time to diagnosis.

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UNMASKING THE ATYPICAL: REVISITING MRI FEATURES OF PRIMARY CNS LYMPHOMA IN IMMUNOCOMPETENT PATIENTS

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Abstract: Primary CNS lymphoma (PCNSL) in immunocompetent patients usually shows characteristic MRI features. Atypical findings—such as absent or heterogeneous enhancement, lack of diffusion restriction, hemorrhage, and elevated perfusion—are generally linked to immunocompromised patients and considered rare features otherwise. This study aims to determine how often these atypical features occur in immunocompetent patients and reassess the assumption that atypical features are indeed rare in this group.

Methods: We retrospectively reviewed biopsy-proven PCNSL cases from 2007–2024 at a tertiary center. Inclusion required immunocompetent status, no secondary CNS lymphoma, and available pre-treatment MRI. A senior neuroradiologist evaluated diffusion, enhancement pattern, susceptibility-weighted imaging (SWI), and perfusion parameters.

Results: Fifty-three patients were included, all with diffuse large B-cell lymphoma. Typical features were seen in 25 (47%), while 28 (52.8%, 95% CI: 39.8%–65.6%) had ≥1 atypical feature. Among these, 17 (32%) showed non-classical enhancement, 17 (32%) lacked diffusion restriction, and 12 (43%) exhibited hemorrhagic foci on SWI. Three of eight patients (38%) with perfusion imaging showed increased perfusion parameters.

Conclusions: Atypical MRI features in immunocompetent PCNSL were present in more than half of cases in our cohort, challenging the assumption that such findings are rare in this group. Recognizing this heterogenicity is essential for neuroradiologists to refine differential diagnosis and guide timely and appropriate clinical management.

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HIGH-RESOLUTION 3T TOF MRA OF THE OPHTHALMIC ARTERY: CORRELATION WITH AGE-RELATED MACULAR DEGENERATION

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Background: Age-related macular degeneration (AMD) is the leading cause of central vision loss in older adults, with late-stage forms manifesting either as geographic atrophy (GA) in dry AMD or macular neovascularization in wet AMD. While clinical management focuses on retinal manifestations, vascular contributors such as ophthalmic artery (OA) stenosis remain under-recognized. In this study, we applied a dedicated 3T MRI protocol optimized for orbital vasculature, providing improved visualization of the OA compared with conventional clinical sequences, to assess the relationship between OA stenosis and AMD severity.

Methods: This was a prospective, single-masked, non-interventional study conducted at Tel Aviv Medical Center. Fifty patients with late-stage AMD were enrolled: Cohort A (wet AMD, n=25) and Cohort B (dry AMD with GA, n=25). All participants underwent high-resolution orbital time-of-flight (TOF) MRA on a 3T scanner using a tailored protocol designed to enhance depiction of the OA. Stenosis along the different OA segments and of the carotid arteries was evaluated by two experienced radiologists. Imaging findings were correlated with AMD stage and demographics.

Results: There was a 94.9% agreement on the presence of stenoses across readers. Increasing OA stenosis severity correlated significantly with GA lesion size in dry AMD (p=0.03). Additional radiological biomarkers showed moderate negative correlations between stenosis and choroidal thickness (dry AMD), CVI (both cohorts, near significance), and photoreceptor layer thickness (significant in pooled wet AMD, p=0.03). FAZ acircularity demonstrated strong negative correlations with stenosis in dry AMD eyes (p=0.03–0.01).

Conclusions: This study demonstrates the feasibility and value of a dedicated 3T TOF MRA protocol for detailed OA assessment in AMD patients. Radiologically detectable OA stenosis correlated with imaging-derived biomarkers of disease progression, particularly GA enlargement. These findings highlight the role of advanced radiological techniques in uncovering vascular contributions to AMD and support future exploration of interventional strategies targeting OA perfusion.

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POST-SIALO-CBCT FINDINGS IN PATIENTS WITH SIALOLITH RELATED CHRONIC OBSTRUCTIVE SIALADENITIS

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Background: Chronic Obstructive Sialadenitis (COS) is characterized by meal-time swellings, often caused by sialoliths or ductal abnormalities. Sialography with CBCT (Sialo-CBCT) demonstrates gland architecture and function, particularly in the five-minute post-evacuation phase. This study analyzed Sialo-CBCT radiographic findings, with post-Sialo images showing impaired evacuation, in COS patients with sialolith.

Methods: This retrospective study analyzed 80 cases of parotid/submandibular COS using CBCT sialography, preformed during 2021–2024. Inclusion criteria were: impaired post-Sialo-CBCT evacuation and confirmed sialolithiasis. Synapse™ merged pre-/Sialo images assessed sialolith location (intra/extra-ductal), while post-Sialo-CBCT assessed the obstruction role of various radiographic features including sialolith, stricture, dilatation and filling defect. Statistical analysis correlated sialolith location with its obstructive COS features.

Results: We included nine COS patients with impaired evacuation and confirmed sialolithiasis (mean age 66.4 ± 16.6), with predominant (66.7%) parotid involvement. Most sialoliths were proximal (88.9%) and

Conclusions: Post sialo-CBCT evacuation phase may demonstrate obstructive features not demonstrated by Sialo-CBCT, such as orifice obstruction. These findings support integrating post-Sialo-CBCT into COS diagnostics for better assessment of salivary gland obstructive disease. Future investigations will focus on analyzing COS cases without sialoliths to compare obstruction patterns and establish a more comprehensive diagnostic framework.

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COMPARATIVE ACCURACY OF INFARCT CORE PREDICTION BETWEEN WIDELY USED PERFUSION SOFTWARE PROGRAMS

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Background: To evaluate the predictive performance of two widely used CT perfusion software packages for final infarct volume (FIV).

Methods: A retrospective study was performed of 850 suspected stroke patients who underwent CTP between May 2023 and November 2024. Data were processed by AIDOC and SIEMENS automatic software. Only patients with follow-up imaging were included; FIV was measured using a PACS-based 3D reconstruction tool. Correlation and Bland–Altman analyses were performed. Positive and negative predictive values were also calculated.

Results: Both methods correlated with ground truth; AIDOC showed higher correlation (r=0.67) than SIEMENS (r=0.59). RMSE was similar (71.9 vs 70.1), respectively. Bland–Altman suggests both have negative bias (tend to underestimate), with AIDOC exhibiting a larger average underestimation than SIEMENS, but comparable dispersion. Using the measured core as a reference, AIDOC yielded higher PPV (0.91) and specificity (0.96), whereas SIEMENS showed higher sensitivity (0.59).

Conclusions: In this cohort, perfusion-derived core estimates from AIDOC showed slight superiority for FIV prediction.

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PRE-OPERATIVE INTRAORAL ULTRASOUND FEATURES OF MALIGNANT ORAL LESIONS: DEVELOPMENT OF A PREDICTIVE SCORING MODEL

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Background: To investigate the association between pre-operative intraoral ultrasound (ioUS) features and malignancy in oral mucosal lesions, and to develop a practical scoring model for risk prediction.

Methods: A prospective cross-sectional study was conducted in patients with oral soft tissue lesions scheduled for biopsy. All participants underwent high-resolution ioUS followed by biopsy within two weeks. Sonographic parameters including lesion size, echogenicity, cystic change, calcifications, margins, and vascularity were compared with histopathology. Multivariate logistic regression was applied to identify predictors of oral squamous cell carcinoma (SCC) and to construct a risk model.

Results: Fifty-one patients with 52 lesions were included (24 women, 27 men; mean age 60.1±16.7 years, range 18–90). Histopathology confirmed 23 SCCs, 23 benign lesions, 3 dysplasias, and 3 nonspecific findings. Multivariate analysis identified lesion diameter ≥12 mm (sensitivity 0.76, specificity 0.77), ill-defined margins (p0.001), and increased vascularity (p=0.002) as independent predictors of SCC. A scoring model incorporating these variables achieved high diagnostic performance, with an AUC of 0.92 for distinguishing SCC from benign lesions.

Conclusions: Ill-defined margins, larger lesion size, and increased vascularity on ioUS are strongly associated with SCC. Pre-operative ioUS is a reliable, noninvasive modality that can support clinical decision-making, expedite biopsy, guide follow-up, and potentially reduce unnecessary invasive procedures.

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CLINICAL AND RADIOLOGICAL PREDICTORS OF INVASIVE FUNGAL SINUSITIS

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Background: Invasive fungal sinusitis (IFS) is associated with high mortality rates, chiefly because it is often diagnosed late in the course of disease when infection has spread to the orbit, skull base, or intracranially. To define early clinical and radiologic indicators of IFS, which can be integrated into a prediction model and clinical management algorithms.

Methods: Patients with proven or probable IFS were identified in two tertiary level hospitals as part of prospective monitoring of invasive mycoses. Patients with similar underlying medical conditions who underwent sinus CT and nasal endoscopy because of new onset sinus symptoms served as controls, matched for age range and neutropenic status. CT images were reviewed by two blinded radiologists and features were scored on structured report forms. CT and clinical data were compared between cases and controls; variables associated with IFS were further assessed in multivariate regression models.

Results: Twenty-seven patients with IFS were identified and matched 1:1 with control patients. Ocular pain, preauricular or premaxillary fat infiltration on sinus CT and mucosal necrosis identified on nasal endoscopy were independently associated with IFS and were retained in the regression model. Model positive and negative predictive values were 0.95 and 0.81, respectively, with an area under the receiver-operating curve of 0.88.

Conclusions: Integration of radiologic and clinical features allowed early prediction of IFS, suggesting that these criteria could be used in the context of a clinical diagnostic algorithm.

E-POSTER

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ACUTE DISSEMINATED ENCEPHALOMYELITIS IN A 6-YEAR-OLD BOY: THE DIAGNOSTIC IMPORTANCE OF MRI

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Background: ADEM is an immune-mediated inflammatory demyelination disorder which considered to be a severe, monophasic syndrome that predominantly affect white matter of brain and spinal cord leading to encephalopathy with highest incidence affecting children.

Objective: The importance of baseline MRI imaging and follow-up MRI in the diagnosis of ADEM.

Case presentation: Healthy 6-year-old boy represented to the ER with classic prodromal symptoms followed by an upper respiratory tract infection; pyrexia, lethargy, headache. Neurological physical exam was normal and he was discharged from the hospital. His condition worsened within couple of days to ataxia with facial asymmetry. His lab showed no specific pathological finding.

Initial MRI revealed large asymmetrical patchy and poorly margined periventricular white matter and brainstem lesions. LP raveled: ANTI MOG+.

Followed MRI 5 months later, showed almost complete resolution of abnormalities which positively support the final diagnosis of monophasic ADEM.

Discussion: This case of pediatric ADEM highlights the importance of early MRI in the diagnosis of ADEM, and show the importance of follow-up MRI in order to differentiate monophasic ADEM from other DD`s.

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ORBITAL ROOF T2 HYPERINTENSITY IN PEDIATRIC MRI: PREVALENCE AND CLINICAL CORRELATES

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Background: T2 hyperintensity along the orbital roof is occasionally noted on pediatric MRI, but its significance is unclear. In clinical practice, this appearance may raise concern for infiltrative or mass-like processes. We aimed to evaluate its prevalence and associations with clinical variables.

Methods: We retrospectively reviewed pediatric brain MRIs (orbits protocol) performed between 2015 and 2022. Study patients had bilateral papilledema with no clinical suspicion for neoplastic or metastatic disease; controls were scanned for strabismus, diplopia, or blurred vision. Associations with age, anesthesia, gender, magnet strength, and papilledema status were analyzed (Mann-Whitney, Chi-square, and logistic regression).

Results: Among 145 patients (mean age 7.3 ± 5.1 years; 58% male), T2 orbital roof hyperintensity was observed in 32%. Patients with T2 hyperintensity were significantly younger (mean, 5.23 years vs. 8.35 years; $p = 0.001$) and more frequently scanned under anesthesia (p 0.001) and in 3T scanner ($p = 0.031$). No significant associations were observed with papilledema ($p = 0.45$) or gender ($p = 0.15$). In a multivariate logistic regression model that included age and anesthesia, neither variable remained statistically significant. The reduction in the odds ratio for anesthesia after adjusting for age suggests that age may act as a confounder in the association between anesthesia and orbital T2 hyperintensity.

Conclusions: T2 hyperintensity along the orbital roof appears to be a relatively common finding in children, particularly among younger patients. It is more frequently seen in scans performed under anesthesia and on 3T MRI systems. This appearance may represent lymphatics or loose connective tissue within the orbital roof, rather than true edema or an infiltrative process. While its exact nature remains uncertain, it may represent a benign, age-related imaging findings of no clinical significance.

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NEONATAL SCROTAL SWELLING AS A RARE PRESENTATION OF SPONTANEOUS INTESTINAL PERFORATION: A CASE REPORT

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Background: Spontaneous intestinal perforation (SIP) in neonates is a rare but life-threatening condition. We report a unique case where initial presentation with scrotal swelling and discoloration mimicked testicular torsion.

Methods: A 1-day-old full-term male neonate, hospitalized for Transient Tachypnea of the Newborn (TNN), presented with scrotal discoloration and right-sided firmness. Scrotal ultrasound revealed thickened scrotal walls and suspected air bubbles. The testes were normal with preserved Doppler flow. Upon placing the transducer on the right inguinal canal, a large air bubble was identified, showing continuity with the peritoneal cavity. A subsequent full abdominal ultrasound confirmed similar fluid and air in the left hemi-abdomen, highly suspicious for bowel perforation. This was further confirmed by abdominal X-rays showing extensive free intraperitoneal air.

Results: The critical clue for intestinal perforation was the scrotal fluid with air bubbles communicating with the abdomen. This redirected the clinical focus from a primary testicular pathology to an intra-abdominal emergency.

Conclusions: This case underscores the diagnostic challenge of neonatal SIP when its initial signs are atypical. It serves as a reminder for radiologists and pediatricians to consider bowel perforation in the differential diagnosis of neonatal scrotal swelling.

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LEFT CPA MASS IN A MALE: MRI FAVORS SCHWANNOMA DESPITE NEWLY DISCOVERED BREAST CANCER

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Case presentation: An adult male presented with progressive dysphagia and dysarthria. Brain MRI showed a left cerebellopontine angle (CPA) mass arising from the lateral recess (foramen of Luschka), with avid, well-circumscribed enhancement and internal susceptibility foci compatible with microhemorrhages; diffusion was not convincingly restricted and no surrounding edema was seen. The lesion displaced the brainstem and fourth ventricle to the right. The third and lateral ventricles were enlarged, a configuration compatible with hydrocephalus, without evidence of transependymal edema. As part of systemic work-up, contrast-enhanced CT of the chest/abdomen/pelvis demonstrated a right breast mass and widespread mixed lytic–sclerotic osseous disease; vertebral biopsy confirmed carcinoma of breast origin. Despite the newly uncovered oncologic context, the MRI pattern - lateral recess origin with an extra-axial plane, sharp margins, susceptibility foci, absent edema, and no diffusion restriction - favored a nerve sheath tumor and rendered CPA metastasis less likely. The lesion was resected via a retrosigmoid approach; histopathology confirmed a benign schwannoma. The postoperative course required prolonged ventilatory support and tracheostomy.

Take-home message: even when systemic malignancy is discovered during staging, CPA lesions should not be presumed metastatic. Meticulous MRI pattern recognition can redirect the differential toward a benign nerve sheath tumor and prevent misclassification and downstream management errors.

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MESENTERIC PANICULITIS CAN CONSISTENTLY BE DIAGNOSED BY ULTRASOUND: CORRELATION WITH CT

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Background: Mesenteric panniculitis (MP) is an uncommon , often incidental finding on abdominal CT , typically described as a fat - attenuation abnormality in the mesentery . Its diagnosis by ultrasound (US) is less established despite its widespread availability and non - ionizing nature . The aim of this study was to evaluate the diagnostic accuracy of US for MP, using CT as reference standard .

Methods: We retrospectively evaluated 42 patients who underwent both abdominal US and CT within 60 days. US examinations were performed by experienced abdominal radiologists assesing mesenteric echogenicity, mass effect , preservation of fat arround mesenteric vessels and presence of mesenteric lymph nodes . CT served as the gold standard for diagnosis . Agreement between modalities was analysed using kappa statistics .

Results: Among 42 patients (median age 65 years**,** M:F ratio 26:16) MP was diagnosed on CT in 42 patiens **.** US correctly identified MP in 35 patients **,** yielding a positive predictive value **(** PPV) of 83.3%.Characteristic US features included a well - defined hyperechoic mesenteric mass with preserved vessel margins , mass effect and ocasional small hypoechoic lymph nodes .

Conclusions: Abdominal US reliably detects MP showing high concordance with CT . Recognition of its characteristic sonographic features enables confident diagnosis , potentially reducing the need for additional CT, except selected patients . US should be considered a first line tool in the evaluation of suspected panniculitis .

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THROMBOSED RETROPERITONEAL VARIX MIMICKING PYELONEPHRITIS – A RARE POST PARTUM COMPLICATION

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Case presentation: Retroperitoneal varices are relatively uncommon and may pose significant diagnostic challenges due to their nonspecific clinical presentation.
In the postpartum setting, flank pain and fever are usually attributed to urinary tract infections or endometritis. Although uncommon, vascular disease such as thrombosed varices still should be considered as differential diagnosis.
Post partum thrombophlebitis is usually attributed to ovarian vein thrombophlebitis, which is rare and potentially fatal disorder. However, it is important to emphasize that postpartum thrombophlebitis can occur at locations other than the ovarian vein.
Therefore, retroperitoneal varices might be potentially serious complication following childbirth.

We present a case of a 26-year-old woman with complaints of right flank pain and fever one week after an uncomplicated vaginal delivery.
The initial diagnosis of pyelonephritis was made, and delayed the recognition of an underlying thrombosed retroperitoneal perinephric varix, which was later identified through Computed Tomography (CT), Magnetic Resonance (MRI) and verified by biopsy.
After two months of therapeutic dose of anticoagulants, the follow up imaging demonstrated a near-complete resolution, with only a residual collateral vein.

This case highlights the diagnostic challenges and emphasizes the role of multimodal imaging in atypical postpartum complications.

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DISSEMINATED EXTRAPULMONARY TUBERCULOSIS INVOLVING THE ILIOPSOAS MUSCLE: A CASE REPORT

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Background: Disseminated tuberculosis (TB) is an uncommon but serious manifestation of Mycobacterium tuberculosisinfection, usually from hematogenous spread. It can affect multiple organs and mimic malignancy or other infections, posing a diagnostic challenge. Psoas involvement is rare and easily overlooked.

Methods: A 51-year-old man presented with prolonged fever, weight loss, and night sweats. Contrast-enhanced CT of the chest, abdomen, and pelvis showed no pulmonary lesions but demonstrated multiple enlarged retroperitoneal and mesenteric lymph nodes with central low attenuation, multiple hypodense splenic lesions, and small right psoas lesions. A large rim-enhancing collection was seen in the left iliopsoas muscle. Laboratory tests supported the diagnosis of disseminated TB, confirmed by microbiological and histopathological analysis after percutaneous drainage.

Results: Radiologically, disseminated TB may appear with necrotic lymphadenopathy, visceral lesions, and musculoskeletal involvement. Iliopsoas involvement is particularly uncommon, usually due to spread from spinal or nodal disease. Recognition of these characteristic patterns is crucial for early diagnosis, especially in endemic regions or immunocompromised patients.

Conclusions: This case highlights the importance of considering TB in the differential diagnosis of necrotic lymphadenopathy and multisystemic lesions. Awareness of its variable imaging manifestations helps avoid diagnostic delays and guides appropriate management.

Keywords: disseminated tuberculosis, necrotic lymphadenopathy, splenic lesions, iliopsoas abscess, case report, CT imaging.

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THE PROGNOSTIC VALUE OF THE CHANGE IN THE BRAIN PARENCHYMAL SUV INTENSITY FOLLOWING PANCREATIC SURGERY

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Background: The standardized uptake value (SUV) of brain parenchyma on FDG-PET is inversely correlated with blood glucose levels and diabetic status. However, there is currently no evidence evaluating changes in brain SUV following pancreatectomy (partial or total).

Objective:
To assess changes in brain SUV before and after pancreatectomy, and to compare these findings with brain SUV changes before and after colectomy.

Methods: This retrospective study included 100 patients who underwent FDG-PET at Shaare Zedek Medical Center after 2020. The study group comprised 50 patients with FDG-PET scans performed both pre- and post-pancreatectomy, while the control group comprised 50 patients with pre- and post-colectomy FDG-PET scans. All patients had normal serum glucose levels at the time of imaging. Brain parenchymal SUV values were measured and compared using axial, sagittal, and coronal reconstructions to ensure comprehensive assessment.

Results: In the study group, 28 of 50 patients (56%) demonstrated a decrease in brain SUV greater than 3 units, 15 patients (30%) showed no significant change (–3 to +3), and 7 patients (14%) showed an increase greater than 3 units. In the control group, no significant change in brain SUV was observed between pre- and post-colectomy scans.

Conclusions: Brain parenchymal SUV significantly decreased following pancreatectomy, whereas no change was observed following colectomy. These findings suggest that altered brain SUV may reflect early pre-diabetic changes and could serve as a potential prognostic marker for morbidity and mortality.

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RARE MASS, RARE COMPLICATION: MALIGNANT ECTOMESENCHYMOMA WITH EXTENSIVE TUMOR THROMBUS.

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Background: Pediatric neck masses are commonly congenital or inflammatory. Malignant tumors with tumor thrombus are rare and pose diagnostic challenges.
A 2-year-old female presented with a new painless left submandibular swelling. Ultrasound revealed a heterogeneous, hyperemic 2.6×3.3×2.4 cm mass attached to a thrombus/tumor thrombus extending into the internal jugular vein. Contrast-enhanced CT showed a heterogeneous enhancing lesion involving the submandibular salivary gland, continuous with a tumor thrombus in the internal jugular vein extending into the right atrium.
Ultrasound guided biopsy was performed two days after admission. The pathology was of malignant ectomesenchymoma (embryonal rhabdomyosarcoma with a neuronal/neural component).
PET-CT was done for staging. High uptakes were seen both in the lesion and the thrombus, strengthening the former assumption of tumor thrombus. No other lesions were found.
The patient was treated with chemotherapy. MRI done two months later, for follow up, demonstrated an avidly enhancing heterogeneous mass, with diffusion restriction. Tumor`s size reduced compared to imaging at diagnosis.
Conclusion: This case underscores the importance of comprehensive multimodality imaging in diagnosis, tissue diagnosis, staging and follow up of a rare tumor in a child.
The distinction between thrombus and tumor thrombus is crucial, and meticulous imaging techniques are required.

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EXTRASKELETAL OSTEOSARCOMA WITH POST-TREATMENT PSEUDOEPITHELIOMATOUS HYPERPLASIA MIMICKING TUMOR RECURRENCE

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Case presentation: A 67-year-old male presented to his physician because of a painless subcutaneous mass in the distal third of his left thigh. The patient was referred for ultrasound, which demonstrated a calcified lesion. Further workup with radiographs and MRI demonstrated a soft tissue mass with calcifications, typical for extraskeletal osteosarcoma, which was confirmed on subsequent biopsy. A PET CT scan revealed no metastases. The patient was treated with neoadjuvant radiotherapy, after which the mass was excised. After 6 months of observation, an MRI was performed which showed areas of nodular post-contrast enhancement in the surgical bed, suspicious for tumor recurrence. Excisional biopsy was performed, revealing pseudoepitheliomatous hyperplasia, without evidence of tumor recurrence. This case illustrates the workup for a calcified soft tissue lesion discovered on ultrasound, and raises awareness of additional processes mimicking tumor recurrence.

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FAST AND FURIOUS IN THE BELLY: BURKITT LYMPHOMA OF THE BOWEL IN A CHILD.

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Background: Burkitt lymphoma is the most common non-Hodgkin lymphoma in children. In children, it is an aggressive tumor, with good response to chemotherapy and 90% survival rate. Prompt diagnosis and initiation of therapy are essential.

Introduction: An eleven-year-old male patient, was admitted to the emergency department with three weeks of intermittent abdominal pain and constipation. Abdominal ultrasound was performed, demonstrating large infiltrative mass involving the wall of the ascending colon, ileo-cecal valve and terminal ileum. The sonographic appearance was suggestive of lymphoma. CT of the chest, abdomen and pelvis was performed on the same day. Large infiltrative mass involving the ileo-cecal region was seen, with aneurismal dilatation of the small bowel, without pre-stenotic dilatation. No other masses were detected.

Ultrasound guided biopsy was performed the following day. The initial immunophenotyping results suggested malignancy and chemotherapy was started the next day, two days after admission.

Follow up ultrasounds two days and four days post chemotherapy showed 70% and 84% reduction in tumor`s volume, respectively.

Conclusions: Imaging has a critical role in the efficient management of Burkitt lymphoma. Starting with diagnosis and staging, followed by biopsy and finally, assessment of treatment efficiency.

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COMPLICATION FOLLOWING RENAL NEPHROSTOMY MIMICKING NEOPLASIA

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Case presentation: Perinephric abscess is an uncommon but serious complication that may arise following percutaneous nephrostomy. When superinfected and complicated by multidrug-resistant organisms, such abscesses can acquire atypical radiologic features that can mimic renal malignancy and may pose a significant diagnostic challenge.
We report a case of a 50-year-old male with quadriplegia and a chronic suprapubic catheter who developed recurrent urinary tract infections. After initial management with right nephrostomy and abscess drainage, the patient experienced multiple subsequent admissions for infection control and developed a progressively enlarging perinephric abscess extending into the abdominal wall and psoas muscle. CT urography, US, SPECT Tc 99 m Dimercato Succinic Acid (DMSA) and angiography scan and angiography revealed enhancing solid-appearing components raising concern for neoplastic transformation. The patient underwent open right nephrectomy. Histopathological analysis will be presented.
Conclusion: This case highlights an unusual complication of percutaneous nephrostomy, in which a chronic infected perinephric abscess mimicked renal neoplasia. Awareness of this rare presentation is essential for radiologists and clinicians to avoid misdiagnosis and ensure appropriate management.

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A RARE MANIFESTATION OF DIFFUSE LARGE B-CELL LYMPHOMA

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Background: DLBCL is the most common subtype of non-Hodgkin lymphoma, with an incidence of 4.7–7.2 per 100,000 annually. Extranodal involvement occurs in up to 40% of cases, with rare solid organ involvement. Pancreatic DLBCL can present as abdominal pain, jaundice, or acute pancreatitis, often mistaken for carcinoma. Renal involvement, seen in about 2% of cases, may cause renal dysfunction, flank pain, or hematuria. Diagnosis relies on imaging and biopsy, with R-CHOP chemotherapy as first-line treatment.

Clinical Case: We report a 76-year-old female with a history of partial mastectomy for IDC, and DLBCL involving the right kidney and psoas muscle. The patient presented with epigastric pain and jaundice. Physical examination revealed jaundice and right-sided abdominal dullness. Laboratory tests showed worsening GFR, direct bilirubinemia, elevated LFTs and lipase. CT showed the known mass in the right kidney, lymphadenopathy, nodular thickening of the peritoneum and Gerota`s fascia, and large mass at the porta hepatis, involving the blood vessels, pancreatic head and the CBD. The patient was treated with hydrocortisone followed by R-CHOP chemotherapy with good response.

Conclusion: This case highlights the attribute of lymphoma as one of the great mimickers, presenting with pancreatic mass and findings similar to peritoneal spread.

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OPTIMIZING AORTIC STENOSIS ASSESSMENT: THE ROLE OF CALCIFICATION METRICS AND HOUNSFIELD UNIT THRESHOLDS

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Background: Severe aortic stenosis (AS) is commonly assessed by echocardiography, yet up to 40% of patients present with discordant or borderline findings, especially in low-flow, low-gradient AS with preserved ejection fraction. In such cases, computed tomography (CT)–based aortic valve calcium (AVC) quantification can provide complementary information. The Agatston method traditionally applies a 130 Hounsfield Unit (HU) threshold, but this may overestimate or underestimate true calcification due to overlap with adjacent structures. Evaluating different HU thresholds may improve diagnostic accuracy and reproducibility.

Methods: We retrospectively analyzed 63 patients (mean age 82.6 ± 5.6 years; 50.8% women) who underwent pre-TAVI CT between April–December 2023. AVC was quantified with Agatston scoring at thresholds of 130, 200, 500, 800, and 1000 HU. Echocardiographic data (aortic valve area [AVA], peak and mean gradients) obtained within six months were included. Manual exclusion of LVOT, mitral annulus, and proximal aortic calcifications was performed. Correlations were assessed using Spearman's test.

Results: AVC showed strong positive correlations with AV peak and mean gradients at all thresholds: for mean gradient, r=0.477 (130 HU), r=0.483 (200 HU), r=0.484 (500 HU), r=0.286 (800 HU), r=0.246 (1000 HU), all p0.05). Increasing HU thresholds markedly reduced detection of non-valvular calcifications (coronary artery calcium score declined from 563 ± 321 at 130 HU to 0 at 1000 HU), thereby improving specificity for valvular calcium.

Conclusions: AVC quantification at multiple HU thresholds strongly correlates with hemodynamic severity of AS, whereas AVA correlation is limited. Higher thresholds (800–1000 HU) enhance diagnostic specificity by excluding adjacent structures, reducing variability, and improving reproducibility. Multi-threshold HU assessment may standardize CT-based evaluation of AS and better guide clinical decision-making, particularly in patients with borderline echocardiographic findings.

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BCG-ASSOCIATED AORTITIS: A RARE COMPLICATION OF INTRAVESICAL IMMUNOTHERAPY

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Case presentation: Intravesical Bacillus Calmette-Guérin (BCG) is an established therapy for transitional cell carcinoma in situ. Systemic hematogenous dissemination is an uncommon complication. Vascular involvement, including infectious aortitis, is exceptionally rare and presents significant diagnostic and therapeutic challenges.

We present an 82-year-old man with a history of carcinoma in situ treated one year earlier with intravesical BCG who developed progressive abdominal pain. Contrast-enhanced CTA revealed a 4.2 cm infrarenal abdominal aortic aneurysm with wall thickening and periaortic collections, as well as smaller collections along the right common iliac artery. These findings were concerning for infectious or inflammatory aneurysm. PET-CT demonstrated increased FDG uptake along the aneurysm wall and iliac artery. With negative blood cultures, endovascular aneurysm repair with stent graft was performed. Symptoms persisted, and follow-up CT showed enlarging periaortic collections. In the context of prior BCG therapy, BCG-associated aortitis was suspected. Ultrasound-guided biopsy of the aneurysm wall confirmed Mycobacterium bovis (BCG). The disease progressed despite prolonged anti-tuberculous therapy.

This case highlights the importance of considering BCG-associated aortitis in patients with prior intravesical therapy. Awareness is crucial, even years after instillation. Imaging is central to diagnosis and follow-up.

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CT BODY COMPOSITION CHANGES PREDICT SURVIVAL IN IMMUNOTHERAPY-TREATED CANCER PATIENTS

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Background: Identifying high-risk patients during immunotherapy remains a major clinical challenge. CT-derived body composition parameters, including skeletal muscle and fat indices, are increasingly recognized as prognostic biomarkers in oncology. While most studies have focused on baseline measurements, longitudinal changes during systemic therapy may better capture treatment-related metabolic alterations, and standardized methods for measurement and reporting during immunotherapy remain limited.

Methods: Patients treated with immunotherapy for non-small cell lung cancer (NSCLC), renal cell carcinoma (RCC), or melanoma between 2017 and 2024, who had technically adequate baseline and follow-up CT scans were included. Body composition was analyzed using a novel, fully automated software (CompoCT) for L3 slice selection and segmentation. Body composition indices (e.g. skeletal muscle index [SMI]) were calculated by dividing the cross-sectional area (cm^2) by the patient's height squared (m^2).

Results: The cohort included 376 patients (mean [SD] age 66.4 [11.4] years, 67.3% male, 72.6% NSCLC, 14.6% RCC, and 12.8% melanoma. During a median follow-up of 21 months, 220 patients (58.5%) died. Baseline body composition parameters were not significantly associated with mortality, except for a weak protective effect of higher SMI (HR 0.98, p = 0.043). In contrast, longitudinal decreases were strongly associated with increased mortality risk. Relative decrease in SMI (HR 1.17, 95% CI 1.07–1.27) or subcutaneous fat index (SFI) (HR 1.11, 95% CI 1.07–1.15) significantly increased mortality risk. Multivariate models showed similar concordance (0.65) and consistently identified older age, NSCLC tumor type, and relative decreases in SMI and SFI (per 5% units) as independent predictors of mortality.

Conclusions: In patients with solid tumors treated with immunotherapy, longitudinal decreases in skeletal muscle and subcutaneous fat were strong, independent predictors of mortality, with prognostic value exceeding baseline measures, and remained significant after adjustment for age, gender, and tumor type. Automated CT-based body composition analysis may enhance objective risk stratification and support treatment decisions during immunotherapy

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THORACIC VASCULAR MALFORMATION MIMICKING PLEURAL EFFUSION: A CASE REPORT

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Case presentation: A 66-year-old woman underwent a community chest radiograph that suggested a pleural effusion. She was referred to our institution for further evaluation with CT, which demonstrated a localized opacity initially suspected to represent pleural pathology. Comparison with a prior CT from 2018 clarified the diagnosis of a vascular malformation. The malformation was characterized by a hypertrophic, tortuous right diaphragmatic artery, together with hypertrophic posterior intercostal arteries forming a collateral vascular network in the lower hemithorax.

This case highlights the importance of longitudinal imaging review in differentiating pleural disease from vascular anomalies. Awareness of such rare vascular malformations is essential to prevent misinterpretation, avoid unnecessary invasive procedures, and ensure appropriate patient management.

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DOES PIRADS SCORE PREDICTION OF CLINICALLY SIGNIFICANT PROSTATE CANCER ON TARGETED BIOPSY DEPEND ON PROSTATE VOLUME?

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Background: The PIRADS scale grades suspicious prostate lesions according to their likelihood of representing clinically significant prostate cancer (CSPC). Lesions with PIRADS 4–5 are routinely sampled on targeted biopsy, while PIRADS 3 lesions are considered selectively. This study assessed whether prostate volume affects prediction of CSPC in PIRADS ≥3 lesions.
Methods: Clinical, imaging, and pathological data were collected from consecutive patients undergoing first fusion biopsy at our institution (October 2016–June 2023). ROC analysis identified the optimal prostate volume cutoff differentiating positive from negative biopsies. Patients were stratified by prostate volume, and detection rates of CSPC and high-risk prostate cancer (HRPC) were compared for PIRADS 3 and PIRADS 4–5 lesions.
Results: A total of 361 men were included. A cutoff of 44 cm^3 distinguished small from large prostates (AUC = 0.74, p = 0.001; sensitivity 76%, specificity 62%). In PIRADS 3 lesions, CSPC was detected in 24% of small prostates versus 2% of large prostates (p = 0.02), and HRPC in 5% versus 0% (p 0.001). In PIRADS 4–5 lesions, CSPC detection was 53% in small prostates versus 28% in large prostates (p 0.001), and HRPC 52% versus 28% (p 0.05).
Conclusions: PIRADS predictive accuracy for CSPC and HRPC differs markedly by prostate volume. Findings support incorporating prostate volume into future PIRADS versions. Biopsy of PIRADS 3 lesions in large prostates appears unwarranted.

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VULVAR LEIOMYOMA

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Background: Smooth muscle tumors, or leiomyomas, are the most common benign gynecologic neoplasms, typically found in the uterine myometrium in females of reproductive age. However, leiomyomas can develop in other anatomical regions in the genitourinary tract, such as the vulva, and possibly in any organ system containing smooth muscle tissue.
Vulvar leiomyoma is a rare soft tissue tumor, yet it represents the most common benign solid tumor of the vulva. Other differential diagnosis include Bartholin cyst, fibroma, lipoma, angiofibroblastoma, sarcoma and aggressive angiomyxoma.

Methods: We present a case of a 38-year-old female immigrant, with a history of a previous caesarian section in her home country, who presented for an elective caesarian section surgery at 39 weeks due to excessive fetal growth. On physical examination, a 7-cm, soft, non-tender mass in the left labia majora was palpated and was presumed to be Bartholin Cyst.
The patient had no complaints regarding the mass and was skeptical about sonographic examination, perhaps due to cultural differences, Upon further questioning, she reported a slow-growing lesion present for over four years.

Results: Ultrasound revealed a soft tissue, not consistent with a Bartholin cyst.
Postpartum MRI with gadolinium demonstrated a well-circumscribed, rounded mass with low homogeneous signal on T1WI, slightly heterogeneous intermediate signal on T2WI, homogenous enhancement and intermediate restricted diffusion, suggestive of a cellular Leiomyoma.

Conclusions: The patient declined surgical intervention due to her postpartum status. Conservative management with imaging follow-up was chosen. This case highlights the importance of considering leiomyoma in the differential diagnosis of vulvar masses and demonstrates the diagnostic value of MRI in distinguishing between benign and malignant vulvar lesions.

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BOWEL AND FACIAL MOVEMENT DISORDER

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Background: Facial nerve palsy is usually idiopathic (Bell's palsy) or related to local skull base disease. Rarely, distant malignancies present with isolated cranial neuropathies, creating a diagnostic challenge.

Methods: A 61-year-old male presented with acute unilateral facial palsy. NCCT revealed a lytic skull base lesion involving the right jugular foramen. MRI excluded common tumors such as schwannoma, meningioma, or glomus jugulare, but the lesion remained indeterminate. PET-CT, performed to search for a primary, demonstrated intense FDG uptake in both the rectum and the jugular foramen lesion, suggesting metastasis. Colonoscopy with biopsy confirmed rectal adenocarcinoma.

Results: This case underscores the role of multimodality imaging in skull base lesions. CT identified the lesion, MRI narrowed the differential, and PET-CT established the systemic link, revealing rectal carcinoma as the unsuspected primary. The skull base is a complex border zone between the CNS, facial structures, and spine, demanding multimodality assessment to avoid unnecessary biopsies. Correlation between jugular foramen disease and distant FDG uptake highlights the value of comprehensive imaging in guiding diagnosis and management.

Conclusions: This case demonstrates an atypical presentation of rectal carcinoma, manifesting as a lytic skull base lesion and facial palsy. Such lesions warrant meticulous imaging evaluation to narrow the differential diagnosis and guide appropriate workup and treatment.

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CLINICAL SIGNIFICANCE OF RIB FRACTURES ANATOMICAL PATTERNS

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Background: Rib fractures are the most common injury among blunt chest trauma and can result in significant morbidity and mortality. Although Chest CT provides detailed mapping of the fractures, no standard anatomical classification exists to predict fracture patterns and complications.
This study aimed to establish an anatomical classification of rib fractures by location and to assess whether specific fracture patterns are associated with higher rates of complications in patients with blunt chest trauma.

Methods: A retrospective review was performed on blunt trauma patients admitted between January 2014 and December 2017. Patients aged 16 with ≥2 rib fractures on chest CT were included. Fractures were classified into five anatomical groups: upper ribs (1–4), anterior middle ribs (4–7), lateral middle ribs (4–7), posterior middle ribs (4–7) and lower ribs (9–12). Demographic data and complications—including pneumothorax, hemothorax, need for chest drains, pulmonary contusion, atelectasis, pneumonia, respiratory failure and mortality—were recorded.

Results: A total of 102 patients met the inclusion criteria, with mean age of 46.3 years and mean number of fractured ribs per patient was 3.82 . Displaced fractures occurred in 46 patients. The Distribution of fracture was as follows: upper ribs – 13.7%, anterior middle ribs – 28.5%, lateral middle ribs – 27.5%, posterior middle ribs – 14.7%, and lower ribs – 15.7%. Notably, patients with lateral middle rib fracture had the highest complication rates, including a 25% incidence of respiratory failure .

Conclusions: Lateral middle ribs fractures are associated with a higher complication rate and may require closer observation.

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INTEROBSERVER VARIABILITY IN PRE-TAVI CORONARY CT ANALYSIS: EVALUATING THE IMPACT OF OPERATOR EXPERIENCE AND SOFTWARE METHODOLOGIES

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Background: Accurate pre-procedural cardiac CT (CCT) measurements are essential for transcatheter aortic valve implantation (TAVI) planning. Increasingly, external companies offer automated or semi-automated analyses, but their agreement with hospital-based radiologists requires validation.

Methods: We retrospectively compared CCT measurements performed by hospital radiologists and an external company in patients referred to TAVI. Pre-TAVI CT analyses were performed on Philips IntelliSpace Portal with automated centerline, annulus plane, and annular measurements; coronary heights, sinus of Valsalva, and access vessels were assessed with reconstructions. External analyses used 3mensio, where only the aortic root is automated and other measurements are manual. We assessed mean differences (paired t-tests) and correlation coefficients. Inter-method agreement was evaluated using intraclass correlation coefficients (ICC, two-way mixed, absolute agreement).

Results: Across 38 patients, most measurements showed good correlation between hospital and company analyses (r = 0.69–0.94). Mean differences were small and non-significant for annular diameters, sinus of Valsalva, and LVOT averages (p 0.05). Significant differences were observed for annular area (–17.8 mm², p = 0.04), STJ long axis (+1.1 mm, p 0.001), and ascending aorta dimensions (+1.7–1.9 mm, p 0.001). Interobserver agreement was generally good for annulus (ICC 0.78–0.87), STJ (ICC 0.84–0.92), and LVOT (ICC 0.76–0.81), while moderate agreement was observed for the right cusp of the sinus of Valsalva (ICC 0.68) and some ascending aorta measures.

Conclusions: Hospital and company CCT analyses demonstrated overall good agreement in most pre-TAVI measurements, with particularly strong reproducibility for annular and STJ dimensions. However, systematic differences in annular area and ascending aorta measurements highlight the need for cautious interpretation when relying solely on external analyses for procedural planning. Further studies with larger datasets are warranted to validate these findings and better define the role of automated versus manual CT analysis in TAVI planning.

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INNOVATIVE PROGNOSTIC METHOD FOR ASSESSING COLLATERAL CIRCULATION AMONG ACUTE STROKE PATIENTS

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Background: Acute ischemic stroke (AIS) remains a leading cause of death and disability worldwide. Prognosis following AIS is influenced not only by the site and size of the infarct but also by the extent and effectiveness of collateral circulation. Current methods for assessing collaterals are often subjective, timeconsuming, or require advanced imaging modalities.
Objective: This study proposes a novel, rapid, and quantitative method to evaluate collateral circulation based on the absolute interhemispheric difference in Hounsfield Units (HU) on CT, defined as AVG HU, and assesses its ability to predict functional outcomes in AIS patients.
Hypothesis: Lower HU values in the affected hemisphere relative to the contralateral side will be associated with worse clinical outcomes, and larger HU differences (AVG HU) will correlate with higher MRS scores.

Methods: This retrospective observational study analyzed 251 patients diagnosed with MCA territory infarcts at the Galilee Medical Center (2019–2023). AVG HU was calculated from standard CTA scans. Functional outcomes were classified using the Modified Rankin Scale (MRS) and NIHSS scores. Statistical analyses included ROC curves, dichotomous and trichotomous cutoff evaluations, and multinomial logistic regression with clinical covariates.

Results: AVG HU showed strong correlation with outcome severity ($p < 0.001$). ROC analysis demonstrated high predictive accuracy (AUC = 0.817) for poor outcome (MRS 4–6), with optimal thresholds at 8.5 and 14.5 for three-level classification. Multinomial regression confirmed AVG HU as an independent predictor of disability (OR = 1.78 for MRS 5–6 vs. 0–2). Performance was enhanced by incorporating age and hypertension into the model.

Conclusions: AVG HU is a promising, accessible, and objective imaging marker for early prediction of functional outcomes in AIS. Its implementation may aid in acute decision-making and triage, especially in settings where advanced perfusion imaging is unavailable.

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DEFINING CAUSES FOR PATIENTS' CANCELLATION OF DIAGNOSTIC IMAGING APPOINTMENTS: A RETROSPECTIVE CASE-CONTROL STUDY

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Background: Missed care opportunities (MCOs), defined as imaging appointments cancelled on the day of or the day before the scheduled time, contribute to inefficient resource utilization in radiology departments. This study aimed to characterize patients associated with MCOs and identify factors contributing to late cancellations.

Methods: We conducted a retrospective case-control study comparing 142 documented MCOs to 142 matched controls whose appointments proceeded as scheduled. Demographic, clinical, and logistical data were extracted from electronic medical records. Statistical comparisons between groups were performed using chi-square tests, Mann–Whitney U tests, Fisher's exact tests, and independent t-tests, as appropriate.

Results: MCOs constituted 1.02% of all imaging appointments during the study period, extrapolating to an estimated annual loss of approximately 150,000–900,000 NIS. Statistically significant differences were observed in the distribution of appointment times ($p = .0226$), with MCOs disproportionately occurring in the late afternoon, and across days of the week ($p = .00034$), with Wednesdays showing a markedly higher rate. No statistically significant differences were found between groups regarding age, gender, marital status, number of children, socioeconomic status, distance to the hospital, health care provider, holiday timing, or type of imaging study.

Conclusions: While demographic and clinical variables did not predict MCOs, system-level factors—particularly appointment time and weekday—were associated with significantly higher cancellation rates. These findings highlight the importance of tailoring radiology scheduling practices to reduce preventable cancellations and optimize resource allocation.

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FROM FETAL IMAGING TO DEFINITIVE PATHOLOGY: A DIAGNOSTIC CHALLENGE OF PRENATALLY DETECTED MESENCHYMAL HAMARTOMA

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Case presentation: Mesenchymal hamartoma of the liver (MHL) is a rare benign pediatric tumor, most frequently presenting in children under two years of age. While often large, these tumors are commonly asymptomatic, and prenatal diagnosis is an uncommon but important finding.

We present the case of a newborn with a multicystic right abdominal lesion first identified on routine fetal ultrasound in the third trimester. Fetal MRI further characterized the lesion as a space-occupying multicystic mass of uncertain origin, with differential diagnoses including cystic hepatic tumor, venolymphatic malformation, and other congenital cystic lesions.

After delivery, follow-up ultrasound and MRI confirmed a large multicystic lesion arising from the right hepatic lobe, displacing adjacent structures. Given the mass effect and diagnostic uncertainty, surgical intervention was pursued. The patient underwent right hepatectomy in the early neonatal period, with an uneventful postoperative course. Histopathology confirmed the diagnosis of mesenchymal hamartoma with no suspicious features.

This case highlights the value of multimodality prenatal and postnatal imaging in diagnosing rare congenital hepatic lesions. To our knowledge, few reports detail fetal detection of MHL confirmed by fetal MRI and subsequently correlated with postnatal imaging and pathology. Early recognition enabled appropriate surgical planning and favorable outcome.

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IMPROVING PATIENT EXPERIENCE: REDUCING ANESTHESIA IN CHILDREN UNDERGOING MRI – PERSONALIZED MEDICINE WITH AI DECISION SUPPORT SYSTEM

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Background: MRI is the preferred imaging modality for children in many indications due to excellent diagnostic accuracy and non-use of ionizing radiation. Nevertheless, the exam requires long and strict patient cooperation and standstill. Consequently, usually children under 9 years of age undergo MRI under sedation or general anesthesia with the inherent sedation / anesthesia risks and requirements, such as fasting, need for anesthesiologists, limited availability, and increased costs. Yet, some children can be cooperative and undergo MRI exams without sedation, especially if multimedia is available as a distractor.

The purpose of this research is to suggest a Decision Support System (DSS) for targeting children that can undergo the examination without sedation. Using this tool, we can offer a new service with multimedia instead of sedation and therefore improve patient experience and shorten waiting time for exams under sedation.

Methods: A prospective study with observative and validation phase. Based on patients', parents' and hospital personal questionnaires we collected multiparametric- multicategory data that define factors associated with successful MRI scans in un-sedated children. Data was analyzed and an AI-based predictor for successful exam was suggested.

In the validation phase, children with predictor score above threshold were scanned with multimedia and without anesthesia. Participants were children aged 5-12 years old that had a neuro-MRI scan scheduled under anesthesia. 100 children participated in each phase.

Results: While using the predictor that was generated based on the data acquired in the observative phase, 91% of the children during the validation phase (predictor score>85) underwent the examination without anesthesia. The satisfaction factor increased by 20%, waiting time was ~2.5 months shorter.

Conclusions: A score that predicts success in performing MRI without anesthesia in young children was suggested, allowing a personalized medicine approach with AI based DSS for reducing un-necessary anesthesia and improving patient experience.

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BRAIN IMAGING IN THE EMERGENCY DEPARTMENT FOR THE DIAGNOSIS OF INTRACRANIAL TUMOR VERSUS STROKE

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Background: CT is the imaging modality in the emergency department (ED) for diagnosing intracranial tumor and ischemic stroke. The test of choice for stroke is head and neck CT angiography (CTA), whereas intracranial tumors are evaluated with contrast-enhanced CT (CECT). The use of brain imaging in ED has increased significantly over the past decades, with the rise in head and neck CTA exceeding the increase in other modalities. However, sometimes this use is unjustified and carries drawbacks.
Although the presentations of both diagnoses may overlap, they can generally be differentiated based on history and physical examination.

The objective of this study is to assess whether head and neck CTA, which is not the test of choice for diagnosing intracranial tumors, is being overused in these patients, and can it be reduced.

Methods: A retrospective case-control study of ED presentations of patients diagnosed by imaging with intracranial tumors or stroke during 2019-2023.

A univariate chi-square test compared proportion of each imaging type between the groups. A multivariate logistic regression compared characteristics of patients referred to for the correct versus incorrect imaging test, and another multivariate logistic regression, including a predictive model, identified characteristics distinguishing the groups.

Results: We found an overuse of head and neck CTA for diagnosing intracranial tumors in Soroka ED. We identified unique characteristics associated with the match or mismatch between the imaging and the diagnosis. One was the variable “time of ED arrival,” with on-call hours being associated with higher appropriateness of imaging. Additionally, we identified features associated with each diagnosis and built a predictive model.

Conclusions: We demonstrated head and neck CTA overuse in the ED. The higher proportion of matches during a shift may stem from the requirement for a neurologist`s evaluation, during a shift, for approving a CTA scan.

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