

Malaysia Congress of Radiology 2026

MCOR Abstracts 2

DOI: <https://doi.org/10.32896/cvnsv8n3.32-41>

Published: 30.09.2026

EPIDURAL SPINAL HEMANGIOMA: A RARE SPINAL LESION MIMICKER

Rabiatul Adawiyah O¹, Intan Bazilah AB¹

1 Department of Radiology, Kuliyyah of Medicine, International Islamic University Malaysia, Jalan Sultan Ahmad Shah, 25200 Kuantan, Pahang, Malaysia.

ABSTRACT

Background:

Epidural spinal hemangiomas are exceptionally rare, constituting only 4% of all epidural spinal tumours, and frequently mimic more common intradural extramedullary lesions on imaging.

Methodology/Case Presentation:

A 48-year-old male presented with a two-year history of progressive bilateral lower limb numbness, weakness, and hypertonia, with sensory loss from the T7/T8 level downwards. MRI of the thoracolumbar spine demonstrated a well-defined T6–T7 epidural lesion ($1.4 \times 2.2 \times 2.9$ cm) with T1 hypointensity, T2 hyperintensity, and avid homogeneous post-contrast enhancement. Axial images revealed a dumbbell-shaped configuration extending through the left T6/T7 neuroforamina without significant foraminal widening, causing severe thecal sac compression and rightward cord displacement, leading to a pre-operative diagnosis of schwannoma. The patient underwent T6 laminotomy and tumour excision.

Results:

Intraoperatively, the lesion was entirely epidural, arising from the exiting nerve root with no intradural extension. Histopathological examination confirmed haemangioma, characterised by thin-walled dilated vascular channels lined by flattened endothelial cells without cytological atypia. Follow-up MRI at three months showed residual foraminal disease; however, clinical improvement warranted conservative surveillance.

Conclusion:

This case highlights the importance of including epidural haemangioma in the differential diagnosis of dumbbell-shaped enhancing spinal lesions. Avid enhancement without foraminal widening may serve as a distinguishing imaging feature, facilitating appropriate surgical planning and consideration of pre-operative embolisation to mitigate intraoperative haemorrhagic risk.

Keywords: epidural hemangioma, spinal tumour, schwannoma mimic, dumbbell lesion

ULTRAFAST BREAST MRI AS A SCREENING TOOL: INITIAL EXPERIENCE FROM A SINGLE TERTIARY CENTRE IN MALAYSIA

Yee Voon W¹, Shaleene S¹, Wai Ling L¹, Caroline W¹, Kartini R¹

1 Department of Biomedical Imaging, Faculty of Medicine, Universiti Malaya, 50603 Kuala Lumpur, Malaysia

ABSTRACT

Background:

Breast MRI is the most sensitive imaging modality for breast cancer detection and screening in selected populations. However, its widespread use is limited by long acquisition times, high costs, and limited accessibility. To address these challenges, University Malaya Medical Centre (UMMC) began evaluating ultrafast breast MRI in 2020. Early institutional research demonstrated promising diagnostic performance while significantly reducing examination time. Since then, ultrafast sequences have been progressively incorporated into routine breast MRI protocols, including in the screening setting. This study evaluates the performance of ultrafast breast MRI as a screening tool at a single tertiary centre.

Methodology:

A retrospective review was conducted of 109 breast MRI examinations performed at UMMC between January and December 2025. Demographic characteristics, screening indications, MRI findings, BI-RADS assessment categories, recall recommendations, biopsy outcomes, and histopathological results were analysed. Cancer detection rate, recall rate, biopsy rate, and positive predictive value were calculated.

Results:

A retrospective review was conducted of 109 breast MRI examinations performed at UMMC between January and December 2025. Demographic characteristics, screening indications, MRI findings, BI-RADS assessment categories, recall recommendations, biopsy outcomes, and histopathological results were analysed. Cancer detection rate, recall rate, biopsy rate, and positive predictive value were calculated.

Conclusion:

Ultrafast breast MRI has the potential to improve accessibility to breast MRI screening by reducing acquisition time while maintaining diagnostic performance. This study will provide real-world evidence on the utility of ultrafast breast MRI in a tertiary referral centre and support its integration into breast cancer screening pathways.

Keywords: Ultrafast Breast MRI, Breast Cancer Screening, Magnetic Resonance Imaging, Breast Imaging, Cancer Detection.

BEYOND AUGMENTATION: ASSESSING ACCURACY, CONFIDENCE AND EFFICIENCY GAINS FOLLOWING AI-ASSISTED CHEST RADIOGRAPH TRAINING IN GRADUATE MEDICAL STUDENTS: A RETROSPECTIVE THREE-PHASE STUDY

Adam Mohamed Naveeth¹, Adriel Goh Guang Wei¹, Glenn Ng¹, Renee Tan¹, Tan Min On¹, Praveen Yogendra¹

1 Diagnostic radiology, Sengkang General Hospital, 110 Sengkang East Way, Singapore

ABSTRACT

Background:

Chest radiograph (CXR) interpretation is a core clinical skill, yet formal radiology teaching remains limited in medical curricula. Graduate students often report low confidence and make significant diagnostic errors. AI tools show high diagnostic accuracy, but whether AI-assisted learning produces durable gains after removal is unknown.

Methodology:

Thirteen graduate medical students completed 90 CXR cases across three 30-case phases: Phase 1 (Pre-AI, no assistance), Phase 2 (With-AI, using Rayscape CXR via CARPL.AI), and Phase 3 (Post-AI, AI removed). Cases included consolidation, pneumothorax, pleural effusion, or pulmonary nodules, scored by an FRCR-accredited radiologist. Repeated measures ANOVA with Bonferroni adjustment compared accuracy (total scores), confidence (0–10 scale), and efficiency (interpretation time).

Results:

The With-AI phase showed significant improvements over Pre-AI: total scores increased by 25.9 points ($p<0.001$), confidence by 17.6 points ($p<0.001$), and interpretation time fell by 533 seconds ($p=0.002$). In the Post-AI phase, confidence ($p=0.011$) and efficiency ($p=0.014$) gains were partially retained. Post-AI accuracy showed a non-significant trend toward improvement (+9.0 points, $p=0.051$). Confidence never correlated with accuracy or speed.

Conclusion:

AI produced immediate, significant improvements in CXR accuracy, confidence, and speed. Efficiency and confidence gains partially persisted after withdrawal. Accuracy showed a non-significant trend towards improvement, suggesting possible short-term learning beyond mere augmentation. These findings support integrating AI into graduate medical radiology education and highlight the need for larger controlled studies to evaluate educational benefit.

Keywords: Artificial Intelligence, Medical Education, Chest Radiographs, Accuracy, Efficiency, Confidence

WHEN DOING LESS IN MORE: IS WATCHFUL WAITING THE RIGHT CALL IN MANAGING OF HEMANGIOMA?

Azizan Azfar Samiun¹, Hamzaini Abdul Hamid¹, Isa Azzaki Zainal¹

1 Department of Radiology, Hospital Canselor Tuanku Muhriz UKM Cheras, Wilayah Persekutuan Kuala Lumpur, Malaysia

ABSTRACT

Background:

Hemangiomas are common benign vascular tumors that typically present in early childhood. Although most follow a self-limiting course, their rapid proliferation and visibility may raise concern due to the potential for complications such as ulceration, functional impairment, or permanent disfigurement. Traditionally, early treatment was considered for high-risk cases; however, recent evidence supports a more conservative approach in selected patients.

Methodology/Case Presentation:

We present a case series evaluating the outcomes and safety of a watchful waiting approach in the management of uncomplicated hemangiomas (infantile/congenital). Patients were monitored through regular clinical follow-up over a defined period.

Results:

The patients demonstrated natural involution of the hemangiomas without requiring medical or surgical intervention. No complications were observed during follow-up. Parental concerns were addressed through structured education and reassurance, contributing to high satisfaction levels.

Conclusion:

Watchful waiting is a safe and effective strategy for managing selected cases of hemangioma. With appropriate patient selection, regular monitoring, and caregiver support, unnecessary treatment can be avoided without compromising clinical or cosmetic outcomes. A multidisciplinary approach remains essential to identify cases that may still benefit from early intervention.

Keywords: hemangioma, conservative management, watchful waiting, pediatric vascular tumor, non-intervention, case series

ONCOLOGIST DILEMMA: “AN ATYPICAL PULMONARY MANIFESTATION OF NASOPHARYNGEAL CARCINOMA MASQUERADING PRIMARY LUNG MALIGNANCY”

Nur Syuhada MS¹, Gurpreet K TS², Noor Najwa P³, Norsuziani I⁴

1 Department of Radiology, Institut Kanser Negara, Putrajaya, Malaysia

ABSTRACT

Background:

Nasopharyngeal carcinoma (NPC) is commonly an Epstein–Barr virus-associated malignancy that can metastasize to the lungs as multiple lung nodules. However, atypical pulmonary manifestations may mimic primary lung carcinoma, creating diagnostic uncertainty, particularly in smokers.

Methodology/ Case Presentation:

This report describes a 39-year-old gentleman with retroviral disease and smoking history, previously diagnosed with NPC (T2N3M0), presented four years later with chronic cough and an incidental left lung mass. CT thorax demonstrated, left peribronchovascular infiltrative mass with multiple lung nodules and enlarged mediastinal nodes, radiologically favoring synchronous primary lung carcinoma rather than metastatic disease. The airway-centered infiltrative morphology was considered discordant with the expected hematogenous metastatic pattern of NPC.

Results:

Histopathological assessment with immunohistochemistry revealed EBER positivity, supporting metastatic NPC despite atypical radiological features.

Conclusion:

This case highlights the dilemma arising from overlapping radiological and immunohistochemical features between metastatic NPC and EBV-associated pulmonary malignancies, emphasizing the importance of multidisciplinary correlation in a case of atypical presentations.

Keywords: EBER positive lung mass, nasopharyngeal carcinoma, lung metastasis

CYBERKNIFE STEREOTACTIC RADIOSURGERY FOR BREAST CANCER METASTASES: 10-YEAR SINGLE-INSTITUTION EXPERIENCE FROM A LOWER-MIDDLE-INCOME COUNTRY

Manahil Irfan¹, Shumaila Arooj²

1 Medical College, Aga Khan University, Karachi, Pakistan,

2 Department of Radiology, Jinnah Postgraduate Medical Centre, Karachi, Pakistan.

ABSTRACT

Background:

Brain metastases represent a devastating complication of advanced breast cancer, and access to stereotactic radiosurgery (SRS) remains disproportionately limited in lower-middle-income countries (LMICs). We describe a decade of SRS utilisation for breast cancer metastases at a tertiary oncology centre in Pakistan, characterising patient demographics, metastatic patterns, and temporal trends in referral volume.

Methodology

A retrospective review was conducted of all breast cancer patients treated with CyberKnife SRS at Aga Khan University Hospital, Karachi, between 2013 and August 2024. Patient demographics, age group distribution, sex, and metastatic site were extracted from the institutional database. Temporal trends in annual case volume were analysed across the study period.

Results

A total of 421 breast cancer patients received CyberKnife SRS over 11 years. The cohort was predominantly female (n=405, 96.2%), with 16 male patients (3.8%). Mean age was 47.4 years (SD 11.6; range 24–80). The largest age groups were 51–60 years (n=115, 27.3%) and 41–50 years (n=114, 27.1%). Notably, 135 patients (32.1%) were aged ≤40 years at the time of treatment, reflecting the younger age of breast cancer onset in this population. Brain metastases constituted the predominant indication (n=381, 90.5%), followed by spine (n=8, 1.9%), liver (n=6, 1.4%), bone (n=4, 1.0%), and lung metastases (n=3, 0.7%). Annual case volume increased markedly over the study period, from 7 cases in 2013 to a peak of 67 in 2022, with 251 patients (59.6%) treated between 2020 and 2024 alone — a 3.7-fold increase compared to 2013–2016 (n=67).

Conclusion

This large single-institution series from a LMIC demonstrates a substantial and growing demand for SRS in breast cancer metastatic disease, with a notably younger patient demographic than Western cohorts. The predominance of brain metastases and the marked rise in case volume over the decade highlight the expanding role of SRS in metastatic breast cancer management and underscore the need for scaled-up radiosurgery infrastructure in resource-limited settings.

Keywords: CyberKnife, stereotactic radiosurgery, breast cancer, brain metastases, LMIC, Pakistan, radiosurgery infrastructure

OCCULT PAPILLARY THYROID CARCINOMA MIMICKING A BRANCHIAL CLEFT CYST: A DIAGNOSTIC PITFALL IN ADULT CYSTIC LATERAL NECK MASS

Aruna RJ¹, Suzana AH¹

1 Radiology Department, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia, Persiaran Mardi, Serdang, Malaysia.

ABSTRACT

Background:

Cystic lateral neck masses in adults are frequently presumed benign, most commonly branchial cleft cysts; however, cystic nodal metastasis from papillary thyroid carcinoma (PTC) represents an important radiologic pitfall.

Methodology/ Case Presentation:

We report a 32-year-old man with a painless right-sided neck swelling for three years. Contrast-enhanced CT demonstrated a well-defined multiloculated cystic lesion in the right level II–III region, initially suggestive of a third branchial cleft cyst. The lesion showed internal enhancing septations with solid nodule. Fine-needle aspiration cytology was non-diagnostic. The patient underwent surgical excision.

Results:

Histopathology unexpectedly revealed metastatic papillary thyroid carcinoma. Subsequent evaluation identified a small primary lesion in the right thyroid lobe, with no distant metastasis. Total thyroidectomy with selective neck dissection confirmed papillary thyroid carcinoma.

Conclusion:

This case highlights a key radiologic pitfall: complex cystic lateral neck lesions in adults may represent metastatic PTC despite benign imaging appearance. Subtle septal enhancement with solid nodule should prompt careful thyroid assessment to avoid misdiagnosis.

Keywords: Papillary thyroid carcinoma; cystic neck mass; branchial cleft cyst; CT imaging; diagnostic pitfall.

CORRELATION BETWEEN PI-RADS SCORE AND THE DETECTION OF PROSTATE CANCER USING MRI-ULTRASOUND FUSION-GUIDED PROSTATE BIOPSY – A SINGLE CENTRE STUDY

Shamsudin A¹, Idris N¹, Zainal Abidin Z¹, Rozalli F²

1 Department of Radiology, Hospital Selayang, Selangor, Malaysia

2 Department of Biomedical Imaging, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia

ABSTRACT

Background:

Multiparametric magnetic resonance imaging (mpMRI) and the Prostate Imaging Reporting and Data System (PI-RADS) version 2.1 improve risk stratification of suspected prostate cancer. This study evaluated the association between PI-RADS score and histopathological cancer detection using MRI–ultrasound fusion-guided transperineal prostate biopsy in a Malaysian tertiary centre.

Methodology:

A retrospective cohort study was conducted involving 99 patients who underwent mpMRI followed by MRI–ultrasound fusion-guided transperineal prostate biopsy between January 2022 and December 2025. Lesions were scored using PI-RADS v2.1. Histopathological outcomes were analysed at patient and lesion levels using chi-square testing, receiver operating characteristic (ROC) curve analysis, and hierarchical binary logistic regression.

Results:

Prostate cancer was detected in 34.3% of patients (34/99). At lesion level, malignancy was identified in 17.9% of lesions (53/296), with detection rates increasing significantly across PI-RADS categories: 7.5% for PI-RADS 3, 18.9% for PI-RADS 4, and 58.1% for PI-RADS 5 ($\chi^2=43.869$, $p<0.001$). ROC analysis demonstrated fair discriminative performance with an area under the curve of 0.721 (95% confidence interval: 0.642–0.800, $p<0.001$). PSA density and PI-RADS score independently predicted malignancy, with PI-RADS 5 lesions demonstrating 13.789-fold higher odds compared with PI-RADS 3 lesions (95% confidence interval: 4.797–39.632, $p<0.001$).

Conclusion:

PI-RADS score demonstrated a significant positive association with prostate cancer detection in this Malaysian cohort. Increasing PI-RADS category and higher PSA density independently predicted malignancy, supporting the clinical utility of mpMRI and PI-RADS-guided fusion biopsy in local prostate cancer diagnostic pathways.

Keywords: PI-RADS, multiparametric MRI, prostate cancer, fusion biopsy, transperineal biopsy

OPTIC NEURITIS AND PERINEURITIS IN OCULAR TOXOPLASMOSIS: DIAGNOSTIC VALUE OF MRI

Azhar Zain YA¹, Deepa Charmaine A¹

1 Biomedical Imaging Department, Faculty of Medicine Universiti Malaya

ABSTRACT

Introduction:

Optic neuritis with perineuritis is a rare manifestation of ocular toxoplasmosis.

Case Reports:

A 40-year-old woman, history of frequent contact with stray cats, presented with acute left visual disturbance, reduced visual acuity, impaired colour vision, and a relative afferent pupillary defect. Fundoscopy demonstrated left optic disc swelling. MRI revealed enlargement, T2/STIR hyperintensity, and enhancement of the left infraorbital optic nerve with circumferential optic nerve sheath enhancement, consistent with optic neuritis and perineuritis. Extensive investigations excluded demyelinating, neoplastic, and other infectious causes, while Toxoplasma IgG was markedly elevated. With a combination of corticosteroids, antimicrobial agents, and intravitreal anti-vascular endothelial growth factor treatment, the patient showed progressive clinical improvement of the vision and supported by the improvement in the Toxoplasma IgG titre by 4-fold decrement.

Conclusion:

Early recognition of atypical features and careful correlation between MRI and ophthalmic imaging are essential for accurate diagnosis, exclusion of alternative etiologies, and timely management.

Keywords: Optic neuritis, Perineuritis, Toxoplasmosis

THE IMAGING SPECTRUM OF PAEDIATRIC ADNEXAL TORSION: ISOLATED FALLOPIAN TUBE AND TUBO-OVARIAN INVOLVEMENT IN TWO CASES.

Cheah LM¹, Faizah MZ¹, MZ Roslly¹, Chai JN¹, M Osman²

1 Department of Radiology, Hospital Tunku Ampuan Besar Tuanku Aishah Rohani, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

2 Department of Paediatric Surgery, Hospital Tunku Ampuan Besar Tuanku Aishah Rohani, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

ABSTRACT

Introduction:

Paediatric adnexal torsion is an uncommon cause of acute abdomen. Tubo-ovarian torsion (TOT) accounts for most cases, whereas isolated fallopian tube torsion (IFTT) is exceedingly rare. Preoperative differentiation remains challenging because of nonspecific clinical presentation.

Case Report:

We report two paediatric cases demonstrating the imaging spectrum of adnexal torsion. The first case involved a 12-year-old girl with IFTT, showing a convoluted tubular cystic structure with preserved ovarian morphology on imaging. The second case involved an 11-year-old girl with TOT, characterised by ovarian enlargement with heterogeneous echotexture, peripheral follicles, and associated tubal dilatation. Both patients underwent emergency laparoscopy. Salpingectomy with ovarian preservation was performed in the first case, whereas salpingo-oophorectomy was required in the second due to non-viable adnexal tissue.

Conclusion:

Although rare, paediatric adnexal torsion requires high clinical suspicion. Recognition of key imaging features is essential for timely diagnosis, prompt surgical management, and optimisation of fertility preservation in paediatric patients.

Keywords: paediatric imaging, isolated fallopian tube torsion, tubo-ovarian torsion, fertility preservation