Malaysia Congress of Radiology 2025
MCOR Abstracts 8

DOI: https://doi.org/10.32896/cvns.v7n4.84-93
Published: 31/12/2025

PRESACROCOCCYGEAL MATURE CYSTIC TERATOMA WITH MALIGNANT TRANSFORMATION IN AN ADULT FEMALE: A RARE CASE REPORT

Nurfatini Ibrahim[1], Bazli Md Yusof[1]

[1]*Department of Radiology, Hospital Pakar Universiti Sains Malaysia, Kubang Kerian, Kelantan,Malaysia*

ABSTRACT

Sacrococcygeal teratoma (SCT) is a congenital tumor commonly seen in neonates, but its presentation in adulthood is exceptionally rare, particularly with malignant transformation. We report a case of a 31-year-old woman who presented postpartum with an incidental finding of a firm presacral mass during routine rectal examination. She was otherwise asymptomatic. Pelvic ultrasound, CT, and MRI revealed a large, multiloculated, multiseptated cystic mass in the presacrococcygeal region, measuring approximately 12.1 × 11.9 × 9.9 cm. Differential diagnoses included an immature teratoma and tailgut duplication cyst. Following further assessment, she underwent exploratory laparotomy and tumor debulking. Histopathological analysis confirmed a mature cystic teratoma with malignant transformation to adenocarcinoma, positive for CK7, CK20, and SATB2. Postoperatively, the patient had an uneventful recovery and was referred for adjuvant chemoradiotherapy. This case emphasizes the importance of considering SCT in the differential diagnosis of presacral masses in adult females, the critical role of imaging in preoperative planning, and the need for histopathological confirmation to guide subsequent treatment. Early surgical intervention remains essential due to the risk of malignant change and recurrence.

Keywords: Sacrococcygeal teratoma, adult teratoma, presacral mass, malignant transformation, case report

PREDICTIVE VALUE OF FLAIR HYPERINTENSE VESSEL SIGN FOR LARGE VESSEL OCCLUSION IN HYPERACUTE STROKE

N Mahfar[1], S S Dhillon[2], A Tharek[3], A Azizan[4], M I A Sabri[5], I S A Bakar[6], F F Khairuddin[4], A S Muda[3]

[1] KPJ Damansara, Radiology Department, Petaling Jaya, Selangor, Malaysia
[2] KPJ Johor, Radiology Department, Johor Bahru, Johor, Malaysia
[3] Hospital Sultan Abdul Aziz Shah (HSAAS), University Putra Malaysia, Faculty of Medicine and Health Sciences, Department of Neurology, Serdang, Malaysia
[4] KPJ Ampang Puteri, Radiology Department, Ampang, Selangor, Malaysia
[5] Longe Medikal Sdn. Bhd., Malaysia
[6] Hospital Sultanah Aminah, Radiology Department, Johor Bahru, Johor, Malaysia

ABSTRACT

Background and Objective:
Early identification of large vessel occlusion (LVO) in hyperacute stroke is essential for timely intervention. This study investigates the predictive value of fluid-attenuated inversion recovery (FLAIR) hyperintense vessels sign (FHVS) for detecting LVO.

Methods:
A retrospective cohort analysis of 102 patients with MRI-confirmed hyperacute stroke within 6 hours of onset was conducted at a single tertiary center (May 2020–January 2025). FLAIR sequences were evaluated by two blinded neuroradiologists for FHVS. LVO was confirmed by vascular imaging.

Results:
FHVS was observed in 48 of 50 confirmed LVO cases. The sensitivity and specificity of FHVS were 96% and 100%, respectively. Receiver operating characteristic curve analysis showed an area under the curve of 0.98. Multinomial logistic regression demonstrated strong correlation between FHVS and M1 segment occlusion (classification accuracy 95%, Nagelkerke R^2 = 0.78).

Conclusion:
FHVS shows excellent sensitivity and specificity as a non-invasive predictor of LVO in hyperacute stroke. Integrating FHVS into stroke imaging protocols could enhance early detection and expedite intervention.

Keywords: Large vessel occlusion, FLAIR hyperintense vessels sign, Ischemic stroke, MRI, Hyperacute stroke

IS HIPPOCAMPAL TAIL RESECTION NECESSARY IN TEMPORAL LOBE EPILEPSY?

Hong Guan Sim[1], Kartini Rahmat[1], Thangaraj Munusamy[2], Vairavan Narayanan[2], Kheng Seang Lim[3]

[1]Department of Biomedical Imaging, Faculty of Medicine, University Malaya,
[2]Department of Surgery, Faculty of Medicine, University Malaya,
[3]Department of Medicine, Faculty of Medicine, University Malaya.

ABSTRACT

Background
Anteromesial temporal lobe (AMTL) resection is the commonest surgical treatment for drug-resistant mesial temporal lobe epilepsy (mTLE) secondary to hippocampal sclerosis. Traditional neurosurgical dogma is sparing of the hippocampal tail to preserve the cognitive functions. Novel work has confronted this perspective by demonstrating optimal posterior hippocampal removal leads to better seizure control. This study intends to assess if hippocampal tail resection is advantageous to our local populations and additionally establish the relationship between volume of remaining hippocampus and their seizure control.

Methodology
This was a cross-sectional, retrospective study of patients who underwent AMTL resection in UMMC from 2014 to 2022. Segmentation software (ITK-SNAP) was used to perform pre-operative and post-operative MRI volumetry. Volume of the hippocampus and parahippocampal gyrus were measured by a radiologist. Hippocampal sclerosis was ascertained from the histopathology result. Engel classification was used to categorize post-operative seizure control.

Results:
26 patients with hippocampal sclerosis underwent AMTL resection. 4 out of 26 patients had hippocampal tail resection (15.4%). Percentage of patients achieving Engel class 1 surgical outcome i.e. free of disabling seizures is 61.5% in the tail resected group whereas in the non-resected group it is 56%. No significant association shown between hippocampal tail resection and seizure outcome ($p>0.05$). Satisfactory seizure control achieved despite less than 50% volume of hippocampus resected consistent with the “disconnection” theory.

Conclusion:
Hippocampal tail resection is not necessary for better post-operative seizure outcome. Hence limited AMTLs may be adequate to achieve good seizure control as well as concurrently preserve patient language and memory function.

Keywords: Anteromesial temporal lobe resection, Hippocampus, Epilepsy

BRAIN MORPHOLOGICAL CHANGES IN GROWTH HORMONE DEFICIENCY: A PROSPECTIVE STUDY

Shamini M[1], Nadia F[1], Norlisah R[1], Kartini R[1], Muhammad Yazid J[2], Azriyanti AZ[2], Tan LK[1]

[1]*Universiti Malaya Research Imaging Centre, Biomedical Imaging, Kuala Lumpur, Malaysia*
[2]*Paediatric Endocrinology, University Malaya Medical Centre, Kuala Lumpur, Malaysia*

ABSTRACT

Background

Recombinant human growth hormone (rhGH) therapy is the standard treatment for isolated growth hormone deficiency (IGHD) in children. While its physical growth effects are well established, limited data exist on its impact on brain development. This study assesses volume of pituitary gland and other brain structures in children with IGHD compared to normal control pre- and post rhGH therapy.

Methodology

We conducted a longitudinal MRI study involving 25 children with IGHD (13 males, 12 females), who underwent MRI brain scans at baseline and after rhGH treatment (mean follow-up = 1.6 years, SD = 1.0). Volumetric analysis of the basal ganglia, corpus callosum, thalamus, hippocampus, and amygdala was performed using automated segmentation (Fast Surfer) and manual segmentation of pituitary gland was performed using ITK-SNAP. Due to the difficulty of re-scanning healthy children, separate age- and sex-matched control groups were recruited at baseline (mean age = 11.2 ± 2.1 years) and follow-up (mean age = 12.3 ± 2.1 years). IGHD participants were 11.0 ± 2.0 years at baseline and 12.6 ± 2.1 years at follow-up. Between-group comparisons (IGHD vs. controls) were analyzed using independent samples t-tests, while within-subject changes (IGHD pre- vs. post-treatment) were assessed using paired t-tests. Effect sizes were calculated using Cohen's d.

Results

At baseline, IGHD subjects had significantly smaller volumes in the caudate nucleus, hippocampus, amygdala, and posterior corpus callosum (splenium) and larger mid-posterior and anterior corpus callosum volumes compared to controls. After rhGH treatment, significant volume increases were observed in the caudate nucleus, hippocampus, and amygdala, while the enlarged mid-anterior and central corpus callosum regions reduced in size. Notably, within-group longitudinal comparisons in IGHD patients revealed significant post-treatment volume increases in both thalami, hippocampus, amygdala and posterior corpus callosum. Putamen and globus pallidus volumes remained relatively unchanged.

Conclusion

This study highlights that rhGH treatment in children with IGHD induces region-specific brain volume changes, especially in the thalamus, hippocampus, amygdala, and corpus callosum. These findings emphasize the role of neuroimaging as an objective assessment of treatment response to rhGH.

Keywords: isolated growth hormone deficiency, growth hormone replacement therapy, brain volumetric analysis.

RARE SYMPTOMATIC PRESENTATION OF TYPE II PROATLANTAL ARTERY: A CASE REPORT

Tan YC [1], Muhamad Handar N F [1]

[1]*Department of Radiology, Hospital Putrajaya, Putrajaya, Malaysia*

ABSTRACT

Persistent carotid-vertebrobasilar anastomoses are a rare variant that persists beyond the embryonic period. This is a well-recognised communication between the anterior and posterior circulation with vascular origins from either the internal or external carotid artery. Herein, we report a rare case of unilateral pulsatile tinnitus with associated type II proatlantal artery.

A 37-year-old lady with no known medical history presented with persistent left sided pulsatile tinnitus and reduced hearing for past 3 months affecting her daily work. Neurological and otoscopic examination were unremarkable. No pulsatile bruit or palpable thrill.

Magnetic resonance angiography (MRA) was performed and revealed a carotid-vertebrobasilar anastomosis recognized as persistent left proatlantal artery type II. The rest of MRI brain findings were normal.

In majority of cases, pulsatile tinnitus can be attributed to causes such as neurologic, vascular or malignancy. Emphasizing the use of MRI complemented with MRA is recommended for comprehensive assessment. In rare circumstances, there may be a causal relationship between pulsatile tinnitus and the incidental finding of a persistent proatlantal artery.

Keywords: persistent carotid-vertebrobasilar anastomoses, proatlantal artery, pulsatile tinnitus

HIRAYAMA DISEASE (MONOMELIC AMYOTROPHY): A CASE REPORT TO HIGHLIGHT TYPICAL MRI FEATURES

Suranjan PDM[1], Madushani WNM[1], Rukman Rajapakse[1], Pallewatte AS[2], Lokubalasooriya C[2], Peiris TPC[2], Chandrakumara A[2]

[1]Postgraduate Institute of Medicine, University of Colombo, Sri Lanka
[2]Department of Radiology, National Hospital of Sri Lanka, Colombo, Sri Lanka

ABSTRACT

Hirayama disease (HD) is a rare neurological disease, predominantly affecting young males. Usual presentation is asymmetrical weakness and atrophy of the distal upper limbs. Imaging plays a crucial role in confirming diagnosis. Our patient is a 19-year-old boy with clinical suspicion of HD. He underwent MRI spine in neutral and flexion positions. Neutral MRI spine showed thin anterior cervical myelopathic changes. Flexion images showed forward migration of the posterior wall of dura forming a crescentic epidural collection posterior to the cord. Epidural flow voids were present within it. Post contrast images showed crescent shaped homogeneous enhancement. These MRI findings are typical of HD. MR Imaging is pivotal in confirming HD. In appropriate clinical and neurophysiological setting, dynamic MRI is indicated as early detection of HD and excluding more sinister entities helps better clinical outcome in young patients.

Keywords: Hirayama disease (HD), MRI features of HD, dynamic MRI, Monomelic Amyotrophy

A RARE CASE OF ADULT CRANIAL FASCITIS: IMAGING FINDINGS AND DIAGNOSTIC CHALLENGES

Hafizuddin Mat Nasir[1], Nur Asma Sapiai[1], Song Yee Ang[2], GK Appalanaido[3]

[1]*Department of Radiology, Hospital Pakar Universiti Sains Malaysia, Kubang Kerian, Malaysia*
[2]*Department of Neurosurgery, Hospital Pakar Universiti Sains Malaysia, Kubang Kerian, Malaysia*
[3]*Department of Oncology, Hospital Pakar Universiti Sains Malaysia, Kubang Kerian, Malaysia*

ABSTRACT

Cranial fasciitis, a rare fibroblastic and myofibroblastic proliferation affecting the soft tissues of the head, predominantly seen in children presents a significant diagnostic challenge in adults because of its atypical clinical and radiological presentation, often mimicking more aggressive benign and malignant tumours. We report a case of a 20" s year-old male presenting with a painless, progressively enlarging mass over the left scalp. CT and MRI revealed a well-defined soft tissue mass with underlying bone erosion and intracranial extension, raising concern for a malignant process. Surgical excision was performed. Histopathological examination confirmed cranial fasciitis. The patient developed a lesion recurrence three months after the surgical intervention. This case report aims to contribute to the limited literature on adult cranial fasciitis by presenting a detailed analysis of a unique case, emphasizing the role of radiologic-histopathologic correlation and discussing the challenges in differentiating it from other malignant entities.

Keywords: Cranial fasciitis, Adult, Benign fibroblastic lesion

TENSION PNEUMOCEPHALUS WITH MOUNT FUJI SIGN: A RADIOLOGICAL CASE SERIES

Fatin Nadzirah A.R.[1], Cynthia T.K.Y.[1], Khatrulnada M.S.[1] Azmi H.[2]

[1]Radiology Department, Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang, Malaysia
[2]General Surgery Department, Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang, Malaysia

ABSTRACT

Tension pneumocephalus is a rare, life-threatening condition in which intracranial air accumulates under pressure, leading to brain compression and neurological decline. While post-traumatic pneumocephalus occurs in 0.5–1% of head injuries, the tension variant is much less common and requires prompt diagnosis. The Mount Fuji sign on non-contrast computed tomography (CT), characterized by the separation of the frontal lobes by subdural air, is highly suggestive of this condition. We report two post-traumatic cases. Case one involved a 51-year-old man assaulted with a machete, causing bifrontal skull fractures and extradural hemorrhage. Case two was a 15-year-old boy who deteriorated neurologically after a fall from height. CT in both cases demonstrated the Mount Fuji sign. Both patients underwent urgent neurosurgical decompression and recovered well. These cases highlight the radiologist's critical role in recognizing tension pneumocephalus, distinguishing it from other causes of neurological deterioration, and enabling timely surgical intervention for improved outcomes.

Keywords: tension pneumocephalus, Mount Fuji sign, post-traumatic brain injury, case series

ESSENTIAL ROLE OF MULTIPHASIC CT IMAGING IN DETECTING CEREBRAL MYCOTIC ANEURYSM AS A SEQUELA OF NATIVE VALVE ENDOCARDITIS

Muhammad Nabil MK[1], Khatrulnada MS[1], Khairina Adliah K.A.[1]

[1]Radiology Department, Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang, Malaysia

ABSTRACT

Cerebral mycotic aneurysm is a rare complication of native valve infective endocarditis, occurring in approximately 2% of cases diagnosed with infective endocarditis. Apart from subtle radiological findings, early detection is often delayed typically due to late onset of cerebral dissemination occurring in the median of 2.1 months. We report a case of a 30-year-old female presented with symptoms of heart failure and findings of mitral valve vegetation on echocardiography, prompting for ophthalmology screening for Roth spots. CT brain imaging was requested following incidental detection of optic disc oedema and reveal a 'salt pretzel' sign – an obtrusive finding instigating further multiphasic CT imaging and ultimately leading to diagnosis of cerebral mycotic aneurysms. This case highlights the importance of high index of suspicion and timely multiphasic CT imaging in diagnosis an uncommon complication of infective endocarditis amidst inconspicuous findings, underscoring the need for imaging awareness in facilitating clinical treatment strategies.

Keywords: Cerebral mycotic aneurysm, Infective endocarditis, Roth spots, Salt pretzel sign

DIFFERENT APPROACH TO ACUTE ISCHAEMIC STROKE: A CASE SERIES

Nor Amalina M[1], Nur Asma S[1], Bazli MY[1], Sanihah AH[2], Muhammad Ihfaz I[3]

[1]*Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia, Kota Bharu, Kelantan, Malaysia.*
[2]*Department of Internal Medicine/Neurology, School of Medical Sciences Universiti Sains Malaysia, Kota Bharu, Kelantan, Malaysia.*
[3]*Department of Neurosurgery, School of Medical Sciences, Universiti Sains Malaysia, Kota Bharu, Kelantan.*

ABSTRACT

Introduction: Ischemic stroke occurs when an arterial obstruction prevents blood flow to the brain, leading to ischemia and potential infarction of brain tissue. Depending on the time of presentation and the location of the arterial occlusion, different treatment modalities such as intravenous thrombolysis using tissue plasminogen activator, mechanical thrombectomy, and superficial temporal artery-to-middle cerebral artery (STA-MCA) bypass may be employed. Case Series: We are presenting three acute ischemic stroke cases with different approach of managements and the outcomes of each case, correlating with the time frame of the stroke onset. Conclusion: Timely and appropriate intervention of acute ischemic stroke remains critical in improving the outcomes. Mechanical thrombectomy is superior to intravenous thrombolysis alone. However, thrombolysis remains the primary management in centers without interventional radiologist. Superficial temporal artery bypass shall too be considered in selected cases in center with neurosurgical expertise.

Keywords: Ischemic, Stroke, Thrombolysis, Thrombectomy, Bypass