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PATIENT FOLLOW UP PROCEDURE FOR TISSUE REACTION EFFECT IN INTERVENTIONAL RADIOLOGY: HOSPITAL SUNGAI BULOH EXPERIENCE

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Introduction: Radiation exposure in Interventional Radiology (IR) procedures is often high, particularly involving complex procedure such as Neuro Interventional. It is important to monitor the patient post-procedure condition by knowing the patient's radiation dose value by observing the tissue reaction effect that may appear on patients. The follow up procedure for tissue reaction effect has been established in Hospital Sungai Buloh and few cases have been identify since. The aim of this study is to share experience of the implementation the follow up procedure and rectify any improvement that may be useful in strengthen the program.

Method: Patient's Cummulative Dose Air Kerma (CDAK) were being monitored. Any patients received CDAK of 3Gy were notified and patient follow up procedure for tissue reaction effect were being initiated. The result of monitoring was recorded into the Hospital Information System during the ward staying and Interventional Radiology Clinic. Analysis on the radiation doses was conducted by considering the tissue reaction effect and the patient's condition.

Result: Between 2022 and 2024, it is reported that 86 patients received CDAK exceeding 3Gy. Among the patients, 3 were reported to demonstrate tissue reaction effect with minimum radiation doses of 6Gy. All reported tissue reaction effect were able to recover within the recovery phase and monitored regularly during IR clinic appointment.

Conclusion: It is concluded that the patients follow up procedure in this need to be revise with few improvements; to increase the alert level to 5Gy for each of the plane and to 8Gy for dermatology referral since most of the tissue reaction effect were fully recovered within the recovery phase.

SONOGRAPHY GUIDED CORE NEEDLE BIOPSY OF THE ABERRANTLY POSITIONED SUPRASTERNAL THYMOMA VIA SUPRASTERNAL ROUTE

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Thymoma is a rare epithelial malignancy of the thymus, in which typically develop in anterior mediastinum. A pre-operative biopsy of the thymic tumour play an important role in multi-disciplinary teams' management, as treatment approach could differ drastically according to the histologic subtype of the tumour. Here we report a case of an exceeding rare aberrantly positioned suprasternal thymoma. A 34-year-old radiology resident doctor was initially presented with thyrotoxicosis with evidence of Graves' thyroiditis. Ultrasonography of the thyroid gland was performed for Grave's disease showing incidental finding of hyperechoic mass inferior to left thyroid lobe and suprasternal region. Subsequent computed tomography detected a 12.2cm soft tissue mass in anterior mediastinal with suprasternal extension. In view of limited biopsy window and atypical location, ultrasonography guided percutaneous core needle biopsy was done via suprasternal approach in consideration of the vascular structures. Histopathology examination was concerning for both type B1 thymoma and thymic hyperplasia. She ultimately underwent modified sternostomy and thymectomy as diagnosis uncertainty persisted. The anomalously positioned thymus could lead to diagnostic uncertainties. This case highlighted the unique challenge in sonography guided core needle biopsy of ectopic thymus through the suprasternal route, especially useful in case of limited window for parasternal biopsy.

TRANSARTERIAL PRESSURE-COOKER TECHNIQUE EMBOLIZATION OF A COMPLEX DURAL ARTERIOVENOUS FISTULA THROUGH SINGLE FEEDER CATHETERIZATION: TECHNICAL SUCCESS IN A SINGLE SESSION

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The pressure-cooker technique (PCT) is a known endovascular approach for treating dural arteriovenous fistulas (DAVFs), offering better patient outcome. We report a case of successful embolization of a complex DAVF using this technique. A 68-year-old Malay gentleman presented with sudden-onset giddiness upon awakening, associated with multiple episodes of vomiting. CT brain revealed acute intraventricular hemorrhage and subarachnoid hemorrhage at the basal cisterns and tentorium cerebelli. Cerebral angiography confirmed a complex right occipital DAVF with multiple feeders from the right occipital, posterior auricular, superficial temporal, and posterior cerebral arteries, draining into dilated, tortuous cortical veins, internal cerebral vein, vein of Galen tributaries, and left superficial middle cerebral vein. Transarterial embolization was performed with tandem superselective cannulation of the distal branches of the right superficial temporal artery using Sonic and Headway microcatheters. The Headway microcatheter tip was placed proximal to the Sonic microcatheter, between the first and second markers. Two coils were deployed via the Headway catheter, followed by slow, controlled injection of 2.6 mL Squid liquid embolic agent into the fistula through the Sonic catheter. Post-embolization angiography confirmed complete occlusion of the fistula with no early venous drainage. This case highlights the efficacy of PCT via single feeder catheterization in complex DAVFs.

ADVANCEMENTS IN FORENSIC INVESTIGATION: CLINICAL POST-MORTEM CT GUIDED BIOPSY AS ADJUNCT DIAGNOSTIC TOOL IN COVID-19 PNEUMONIA DEATH

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Coronavirus disease (COVID-19) has caused significant increase in the number of death worldwide with at least 3 million reported death. On 11 March 2020, COVID-19 is declared as pandemic by WHO. Clinical post-mortem (CPM) CT guided biopsy is a rare tool that is being utilized by the forensic department which may provide additional information in COVID-19 pneumonia death. We conducted CPM CT guided biopsy to a 57-year-old man with no comorbid, initially presented to emergency department (ED) with cough for 3 days and shortness of breath for 1 day. He was intubated at ED for impending respiratory collapse and diagnosed as COVID-19 pneumonia based on rapid test kit swab. Incidentally, his blood result showed significantly elevated Troponin T (5842) and he was co-treated as NSTEMI. He succumbs after 24 hours despite receiving intensive care. Clinician in charge requested CPM CT guided biopsy to rule out NSTEMI as the cause of death. Procedure was performed with family consent and histopathological examination (HPE) report of the lungs showed both exudative and organizing diffuse alveolar damage in keeping with organizing phase of acute respiratory distress syndrome (ARDS) induced COVID-19. Polymerase chain reaction (PCR) test and immunostaining of biopsy specimens are positive for COVID-19. COVID-19 pneumonia death is concluded by forensic department. Subsequently, HPE report of the left ventricle later revealed area of necrotic tissue likely to be contributed by old infarct. Correlating with his initial elevated Troponin T level, myocardial infarction is a consideration for other cause of death. Nevertheless, post-mortem percutaneous needle biopsy able to provide additional information in the event of COVID-19 pneumonia death and effective in reducing the risk of contagiousness than conventional autopsy.

TARGETED EPIDURAL BLOOD PATCH VIA POSTERIOR TRANSFORAMINAL APPROACH IN VENTRAL CSF LEAK: A CASE-BASED PERSPECTIVE

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Introduction: Cerebrospinal fluid (CSF) leaks can manifest as persistent, debilitating headaches post-lumbar puncture or spontaneously, particularly when ventral in location. When conservative management fails, an epidural blood patch (EBP) offers a minimally invasive, image-guided intervention that is both diagnostic and therapeutic. Despite its long-standing history, the modern evolution of EBP—especially via transforaminal targeting of the ventral epidural space—has revitalized its role in precision neurointervention.

Case Report: We present a case of a 34-year-old Malay female with persistent postural headache following diagnostic lumbar puncture. MRI confirmed a ventral CSF leak. Under fluoroscopic guidance, an epidural blood patch was performed via the right L2-3 posterior transforaminal approach, delivering 15cc of autologous blood precisely to the ipsilateral third of the ventral epidural space.

Results: The patient reported significant symptom relief immediately post-procedure, with complete resolution within 24 hours. Pain score improved by approximately 30% within the first hour following the procedure. No complications were observed. The case emphasizes the efficacy and safety of targeted EBP, particularly in ventral leaks where interlaminar access may be insufficient.

Conclusion: Epidural blood patching, when executed with precision and under image guidance, remains a fascinating and evolving technique. Transforaminal approaches represent a significant advancement, especially in treating elusive ventral CSF leaks. This case demonstrates the value of strategic access planning, emphasizing the intersection between radiological expertise and clinical neuroscience.

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

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Introduction: Early identification of Large Vessel Occlusion (LVO) in hyperacute stroke is crucial for timely intervention. This study investigates the predictive value of Fluid-Attenuated Inversion Recovery (FLAIR) Hyperintense Vessels Sign (FHVS) for LVO in hyperacute stroke patients.

Method: A retrospective cohort study was conducted at Hospital Pengajar Universiti Putra Malaysia, analyzing data from 102 patients with hyperacute stroke who underwent MRI within 6 hours of symptom onset between May 2020 and January 2025. FHVS presence on FLAIR imaging was correlated with LVO confirmed by subsequent vascular imaging.

Results: FHVS was present in 48 of 50 cases with confirmed LVO. The sensitivity of FHVS for predicting LVO was 96%, with a specificity of 100%. Multinomial logistic regression indicated a strong correlation between FHVS and severe stenosis in the M1 segment of the middle cerebral artery.

Conclusion: FHVS demonstrates high sensitivity as a predictor of LVO in hyperacute stroke, supporting its potential as a valuable non-invasive screening tool for early LVO detection.

IMAGE-GUIDED BLEOMYCIN SCLEROTHERAPY WITH POPESCU SUTURING IN TWO PAEDIATRIC CASES OF LOWER LIP VASCULAR MALFORMATIONS

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Vascular malformations are congenital vascular anomalies that can be further classified based on flow dynamics and vascular anatomy. Vascular malformations of the lip, commonly venous in nature, are highly vascular lesions associated with significant cosmetic concerns. Treatment of lip venous malformation is often challenging. Percutaneous sclerotherapy has now become the preferred treatment modality, with various protocols and sclerosing agents proposed. Among the widely used agents are ethanol and 3% sodium tetradecyl sulfate. However, both are associated with higher complication risks. Bleomycin has recently emerged as a promising alternative, offering a more favourable safety profile and fewer complications. However, due to the high vascularity and rapid venous drainage of the lip venous malformation, the local sclerosant agents are often cleared rapidly into the systemic circulation, causing reduced local efficacy and increased risk of systemic complications. This poses a challenge in achieving effective and safe sclerotherapy. The Popescu suturing technique introduced in 1985, addresses this issue by compartmentalizing the lesion through a series of intratumoral strangulating sutures. This method restricts venous outflow, allowing for prolonged local retention of the sclerosing agent. It enhances localized drug concentration while minimizing systemic dissemination, as the lesion is divided into isolated compartments by strangulating suture loops. We present two cases of lower lip vascular malformations in a 5-year-old girl and a 13-year-old boy, both treated with image-guided intralesional bleomycin injection in combination with the Popescu technique. Both patients showed significant clinical improvement and achieved satisfactory aesthetic outcomes.

TRANSARTERIAL BLEOMYCIN TREATMENT FOR LIVER HEMANGIOMA

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Although typically benign, giant liver hemangiomas can lead to significant symptoms and torrential bleeding, warranting appropriate treatment. This case report highlights selective transcatheter arterial chemoembolization (TACE) with bleomycin–lipiodol emulsion as a treatment approach. A 54-year-old male was diagnosed with a giant hepatic hemangioma and underwent TACE between November 2023 and March 2024. Initially, the patient was subjected to bland transarterial embolization (TAE) with polyvinyl alcohol (PVA). After two sessions, the hepatic hemangioma remained similar in size despite selective embolization. Hence, we decided to infuse a bleomycin-lipiodol emulsion. After two additional sessions, follow-up imaging showed a size reduction of more than 50%. This report demonstrates that selective TACE with bleomycin–lipiodol emulsion is a safe and effective non-surgical option for managing giant liver hemangiomas. With no procedure-related mortality and significant tumor shrinkage, the technique shows promise and warrants further investigation through more extensive prospective studies.