Four Cystic Lesions in the Brain, Four Different Diagnoses

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ABSTRACT

Introduction

Cystic lesions are a common entity in the brain. Most cystic lesions are detected incidentally. However, patients can present with various neurological manifestations like headache, nausea, vomiting, weakness of limbs, etc. The cystic lesions in the brain can be categorized broadly as normal variants, congenital, infective, traumatic and neoplastic. The most common intracranial cysts in the adult population are arachnoid cysts, epidermoid cysts, infective (abscesses, hydatid cysts) and neoplastic in our setups.

We are presenting the four different cystic lesions in the brain with four different specific diagnoses.

1. Arachnoid cyst,
2. Epidermoid cyst,
3. Tubercular abscess and
4. Metastasis from lung carcinoma

Role of Imaging

Imaging plays an important role in the diagnosis, pre-operative evaluation, treatment and follow-up of cystic lesions of the brain. Computed tomography (CT) and Magnetic Resonance Imaging (MRI) have their roles. On CT scans without enhancement, the cystic tumours are difficult to detect due to their appearance as homogeneously iso-dense surrounded by extensive vasogenic oedema, seen as hypodensity of the cerebral matter in the vicinity. Contrast-enhanced MRI including spectroscopy, susceptibility-weighted images, diffusion, and perfusion can play a vital role in diagnosis in differentiating benign from malignant lesions.

Conclusion

Intra-cerebral cystic lesions can lead to a real diagnostic challenge for both the radiologist and the neurologist. In this respect, MRI diffusion-weighted sequences and MR spectroscopy proved to be particularly useful. However, these techniques are not widely available, and therefore diagnostic algorithms based on the most common anatomic locations, clinical features and extra-cranial primary lesions can help to narrow the differentials leading to timely intervention and reducing morbidity and mortality of the patients.

Keywords: *Brain; Magnetic Resonance Spectroscopy; Tomography, X-Ray Computed*

Giant Lipomatosis of Sciatic Nerve: A Case Report

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ABSTRACT

Introduction

Lipomatosis of the nerve, which is also known as fibrolipomatous hamartoma, is a fibro-fatty tumour characterized by palpable neurogenic mass as a result of infiltration and proliferation of mature adipocytes and fibrous tissue within the nerve. It is rarely seen and is usually seen within the first three decades of life. Most commonly it occurs in the median nerve, followed by the ulnar and a few other sites such as radial, digital and plantar nerves have also been reported. However, cases involving the sciatic nerve are extremely rare.

Clinical presentation

Lipomatosis of the nerve presents as a lump, moderate numbness, tingling, and weakness in the territory of the nerve involved. We are presenting a case of a 65-year-old female who presented to the outpatient clinic of HAMS Hospital with a tingling sensation in the left posterior thigh for 6 months duration.

Role of Imaging

The typical MRI appearance of lipomatosis of the nerve is generally pathognomonic of this entity, reflecting the morphology of the lesion thereby avoiding unnecessary biopsy. T1-weighted images show low intensity, tubular structures representing the individual nerve fascicles surrounded by high signal intensity fat within the expected normal distribution of the nerve. When T2 fat suppression or STIR (short tau inversion recovery) sequences are used, the nerves can appear homogeneously dark due to the fat suppression of the fat signal and the low signal intensity in the nerve fascicles.

Conclusion

Knowledge of the imaging features of giant sciatic lipomatosis is important because it is helpful not only in diagnosis but to avoid unnecessary surgical interventions. Surgical treatment of the involved nerve is also very limited since it can affect neurological function.

Keywords: *Lipomatosis; Magnetic Resonance Imaging; Sciatic Nerve*

A Rare Case of Aggressive Vertebral Hemangiomas

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ABSTRACT

Introduction

Aggressive vertebral hemangiomas are rare lesions, accounting for approximately 1% of total cases of spinal hemangiomas. These lesions are characterized by significant vertebral expansion, extraosseous component,

epidural extension, narrowed spinal canal, compression of the spinal cord and nerve roots and disturbance to blood flow. Unlike typical hemangiomas, these lesions are usually symptomatic and present with features of compressive myelopathy and/or radiculopathy.

We present here the case of 65 years old female, with aggressive vertebral hemangiomas involving multiple levels of the dorsal spine causing significant vertebral expansion, spinal canal narrowing and compression of the spinal cord.

Role of Imaging

Aggressive hemangiomas are highly vascular with a high tendency for intraoperative bleeding, hence accurate diagnosis is essential. Surgery is required in cases of rapid or progressive neurological symptoms like compressive myelopathy or radiculopathy. CT, as well as MRI, play important role in diagnosis as well as preoperative evaluation.

In CT, lesions appear as hypodense expansile vertebral masses, with cortical defects and soft tissue extension. The classic "polka dot" and "corduroy" signs of the vertebral body can be seen due to trabecular thickening. CT angiography can be useful to look for vascular supply, and preoperative planning if preoperative embolization is planned for management.

MRI is excellent for the assessment of cord and nerve root compression. The extraosseous component shows typical features of hemangioma with high T1 and T2 signals as well as uniform post-contrast enhancement. Thickened trabeculae appear as low signal areas in T1 and T2 images. MRI features of hemangiomas are useful in differentiating from other vertebral lesions like metastasis and lymphoma.

Conclusion

Aggressive vertebral hemangiomas are rarely encountered vertebral lesions, which can present with rapidly progressing myelopathy or radiculopathy due to significant vertebral expansion and extraosseous component. Radiological imaging with CT and/or MRI is essential for its accurate diagnosis, differentiating from its other lesions and preoperative assessment.

Keywords: *Computed Tomography Angiography; Hemangioma; Magnetic Resonance Imaging*

A Case For Poster Presentation
Duplication of Gall Bladder

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ABSTRACT

Duplication of the gall bladder is a rare anatomic variation. The incidence is approximately 1 in 4000 in literature. Preoperative identification of such anomalies and their various types is very important since it can avoid damage to possible vascular and biliary aberrant anatomy during surgery. My case is a 29-year-old male patient with a complaint of epigastric pain which is on and off type. Abdominal ultrasonogram showed multiple calculi in gall bladder lumen with normal wall thickness and no evidence of intra or extrahepatic biliary tree dilatation. Another cystic structure was noted adjacent to it with no intraluminal pathology. Magnetic resonance cholangiopancreatography revealed the duplication of the gall bladder and a common cystic duct for both the cavities draining into the common hepatic duct. Multiple filling defects

were noted within one of the cavities. With these findings, the patient was planned for surgery. Preoperative radiological identification of this anatomic variation helps in planning the surgery accordingly and can prevent perioperative complications.

Keywords: *Anatomic Variation; Gallbladder;Hepatic Duct, Common*

Left-sided Appendicitis with Intestinal Non Rotation: A Case Presentation

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ABSTRACT

Appendicitis presents with an unusual presentation of left lower abdominal pain and its diagnosis is quite troublesome to clinicians delaying prompt intervention. Non-rotation is the most common type of intestinal malrotation. Here, we present a case of 40 years old female with previously undiagnosed intestinal non-rotation with left lower abdominal pain and features of localised peritonitis. Abdominal ultrasonography and multidetector computerized tomography showed left-sided appendicitis with intestinal non-rotation. Diagnostic laparoscopy followed by explorative laparotomy and appendectomy was performed. Clinicians and surgeons are usually trained to diagnose and operate on right-sided appendix, thus, diagnosing and promptly intervening on left-sided appendicitis is quite challenging. Left-sided appendicitis must be kept in mind if a patient presents with left lower abdominal pain. Timely radiological scans like ultrasonography and computerized tomography scans help in prompt diagnosis in these cases.

Keywords: *Abdominal Pain; Appendicitis; Peritonitis*

Splenic Artery Embolization for Hypersplenism

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ABSTRACT

Partial splenic artery embolization is an alternative technique for the management of hypersplenism. It spares part of splenic parenchyma and thus avoids the potential complication of splenectomy and has also shown to be effective in treating portal hypertension, thrombocytopenia and mass effect due to huge splenomegaly. In this poster, we present a small case series of patients who underwent splenic artery embolization in our centre and its inherent complication and success.

Keywords: *Hypersplenism; Splenic Artery; Splenomegaly*

Imaging in Rassmusen Encephalitis

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ABSTRACT

Rassmusen Encephalitis is a rare, chronic inflammatory condition of the brain mostly affecting children and involving one cerebral hemisphere. It is most common in children below 10 years of age with rare instances seen in adolescents and young adults. The most common presentation is a chronic intractable seizure with the diagnosis being made on MRI as a part of a comprehensive neurological or seizure workup. Some cases may present with hemiparesis, neurological deterioration, or loss of speech or motor skills. We present an 18-year-old male, who presented to the department of neurosurgery with a progressive seizure disorder. The patient had initially developed seizures 5 years back and had been on antiepileptics. The frequency of seizures increased and the patient also developed progressive right-sided hemiparesis with deterioration in cognitive functions. Non-contrast CT head showed an atrophied left cerebral hemisphere without any changes in the bony calvarium. MRI brain showed atrophy of the left cerebral hemisphere with dilatation of the ipsilateral lateral ventricle and old gliotic changes. These features supported the diagnosis of Rasmussen's Encephalitis. The nearest differentials of Sturge-Weber Syndrome (SWS), Dyke-Davidoff-Masson Syndrome (DDMS), and Hemimegalencephaly are less likely as there was no evidence of port wine facial nevus as in SWS, compensatory calvarial thickening with elevated petrous ridge as in DDMS or large cerebral hemisphere with ipsilateral ventricular dilatation as in hemimegalencephaly.

Keywords: *Encephalitis; Motor Skills; Seizures*