Abstracts

Nordic Case Competition

DENMARK

Name(s): Stine Hangaard, Benedicte Lange

Affiliation: Department of Radiology, University Hospital of North Zealand, Hilleroed, Denmark

Title: **Os Sustentaculum - a rare case of coalition**

Abstract: Os Sustentaculum (OS) is an accessory ossicle located on the posterior aspect of the sustentaculum tali with an estimated prevalence of 0.3-1 % in general (1) and 24% in all talocalcaneal coalitions (2). OS is a rare entity, which may be depicted on radiographs or more commonly on CT and MRI. OS could be confused with a bone tumor, fracture, or an exostosis. Surgical excision is rarely required and depends entirely of potential symptoms, usually pain. Ankle pain may occur in the case of extra articular talocalcaneal coalition, which can be with or without OS (2).

Patient case: A 15-year-old girl was referred to orthopedic department due to 3 years of increasing pain in the right ankle. No history of trauma, no previous surgery. The pain increased with longer walking distance, and she could no longer run or wear high-heeled shoes. The pain was located around the medial malleolus, inferior to which a bony protuberance was palpated. The clinical assessment found normal position in the hind foot, normal range of motion and normal neurovascular conditions. One year in advance X-ray had been performed showing bilateral prominence of the medial extent of the navicular bone. This time clinical suspicion was raised on coalition or ganglion. MRI was performed and due to signal changes (bone marrow edema) MRI was supplemented with ultrasound and bone scintigraphy to rule out malignancy. Bone scintigraphy found focal and increased activity uptake of the accessory bone. Weight bearing CB-CT showed OS forming a fibrous coalition with the medial part of talus and calcaneus. Finally, surgical excision due to pain confirmed the CT diagnosis. Six weeks after excision the patient was doing well.

Conclusion: Accessory ossicles of the foot and ankle are normal variants of bone development, which usually remain asymptomatic. However, they may be involved in various disorders such as coalition, in which case they can become a source of pain. Understanding the possible disorders and clinical implications of the accessory ossicles of the foot and ankle can provide a more accurate diagnostic process.

References:

(1) Keles-Celik N, Kose O, Sekerci R, Aytac G, Turan A, Guler F. Accessory Ossicles of the Foot and Ankle: Disorders and a Review of the Literature. Cureus 2017 Nov 26;9(11):e1881.

(2) Yun SJ, Jin W, Kim GY, Lee JH, Ryu KN, Park JS, et al. A Different Type of Talocalcaneal Coalition With Os Sustentaculum: The Continued Necessity of Revision of Classification. American Journal of Roentgenology 2015 Nov 20;205(6):W612-W618.

Name(s): Meidahl Petersen S, Borgwardt L,

Affiliation: Department of Radiology, Rigshospitalet - Copenhagen University Hospital, Denmark

Title: **Pediatric patient with multiple tracheal and bronchial diverticula – a case report**

Abstract: Airway diverticula are most often found incidentally in the fifth decade of life and are typically asymptomatic. Diverticula usually occur alone, but numerous diverticula are seen in very rare cases, most often as a part of Mouniere-Kuhn syndrome (MKS). Tracheal and bronchial ectasia are diagnostic criteria for MKS, and the patients often have many diverticula due to weakened airway walls.

Here we present an unusual case of an immunodeficient 16-year-old patient who has been followed with CT scans and chest x-rays since childhood. The patient does not have MKS, though he has multiple diverticula of the trachea and bronchi, dyspnea and recurring infections. The pathogenesis and prognosis are unknown, and we have not found a similar case in the literature.

SWEDEN

Name(s): Boglarka Tot

Affiliation: Department of radiology, Mora hospital, Sweden

Title: **Radiology in diagnosis and treatment: A case of a dural arteriovenous fistula**

Abstract: Dural arteriovenous fistulae are a rare subtype of intracranial and spinal arteriovenous malformations. Characterization of the venous drainage is used to classify the aggressiveness of these lesions. They can present with virtually any neurologic symptoms, but the most common complication is hemorrhage. Here we present a case with classical symptomatology with an unusual etiology.

Patient case: A 70-year-old man presented with sudden loss of consciousness during intercourse. After regaining consciousness, he suffered from a severe headache. Computed tomography showed, somewhat unexpectedly, an acute subdural hemorrhage and a varicose cortical vein in the anterior cranial fossa. A ruptured dural arteriovenous fistula was suspected and subsequently confirmed on magnetic resonance imaging and digital subtraction angiography. The arterial feeders from the maxillary and ophthalmic arteries were successfully embolized. The patient recovered well.

Conclusion: This case reminds the reader to consider dural arteriovenous fistulae as a possible etiology behind neurological symptoms in daily practice.

Name(s): Lars Rosling

Affiliation: Värnamo Hospital, Sweden

Title: **“I can’t feel my legs!”**

Abstract: Lower back pain with sensory and motor deficits are quite common and the usual suspects are disc herniation, tumor, infection or epidural haemorrhage.

Patient case: A 52 year old male presented at his primary care giver with lower back pain and short history of sensory deficits. He was immediately transported to the nearest hospital and upon arrival he had no sensor or motor function in his lower extremities. At first a cauda equina syndrome was suspected and the patient was referred to an urgent MRI which didn´t show any signs of neural compression. However, there was a loss of normal flow void in the abdominal aorta and the patient underwent a CT angiography which showed aortoiliac occlusive disease with complete occlusion of the abdominal aorta distal to the renal arteries and into both the external iliac arteries. The lower part of the left kidney was also affected due to an accessory artery arising from the abdominal aorta. Contrast agent was still present in the femoral arteries due to collateral vessels. The patient was rushed to a larger hospital with interventional radiology/surgery capabilities and had a lengthy extra-anatomy bypass, thrombectomy and endovascular aortic repair

session with aortic and external iliac artery stent grafts. Unfortunately embolization occurred to the right kidney which couldn´t be preserved and during the following week the patient underwent additional surgery due to ischemic bowel. Additional complications from the aortoiliac occlusive disease were renal failure and ischemic spinal cord injury which left the patient paraplegic.

Conclusion: Aortoiliac occlusive disease exists in an acute or chronic form (Leriche syndrome). In the acute onset the symtoms include the 6P´s: Pain, pallor, perishing with cold, pulselessness, paresthesia and paralysis. The condition is associated with high rates of both mortality and morbidity despite the advances in both vascular surgery and critical care. Earlier studies pointed towards embolization as the main cause but in more recent studies thrombosis is more common, perhaps due to an elderly population with more advanced atherosclerosis.

NORWAY

Name(s): Grethe Bjerk[1,2], Liv Kristin Haukjem[1], Åse Tangerud[1], Line Korbøl[3]

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Title: **An unusual clinical presentation that challenged the diagnostic process**

Abstract: We will present a case where an unusual clinical presentation and imaging findings in multiple organ systems complicated the search for a diagnosis.

Patient case: A 40 year old female presented with symptoms of fatigue, palpitations, shortness of breath and epigastric pain. Sarcoidosis was initially suspected due to bilateral mediastinal and hilar lymphadenopathy on chest CT. The lungs were clear, but an enlarged lymph node in the left supraclavicular fossa was noted. During the following weeks the patient was admitted twice to the surgical ward with fever and acute epigastric pain. Abdominal CT revealed cholecystitis, enlarged lymph nodes in hepatic hilum, retroperitoneum and the mesentery. A solid mass obstructed the left ureter resulting in hydronephrosis. Despite treatment with steroids she experienced worsening of dyspnea. Chest CT showed pulmonary infiltrates and pleural effusion. She developed acute respiratory failure and was examined for infection, systemic disease and malignancy. Information from years back in her journal and biopsies finally led to the correct diagnosis.

Conclusion: This case demonstrates the importance of a thorough medical history, histological verification and good communication between clinicians and radiologists. The diagnosis will be revealed in the oral presentation.

Name(s): Tormund Njølstad

Affiliation: Dept. of Radiology, Oslo University Hospital, Ullevål, Norway

Title: **Abscess of the falciform ligament**

Abstract: Abscess of the falciform ligament is a rare cause of upper abdominal pain, with few reported cases in literature. Although the pathophysiology is poorly understood, the condition has been reported to occur in the setting of complicated cholecystitis and cholangitis. In this case report, we present an 82-year-old woman admitted to the hospital with clinically suspected urosepsis where diagnostic imaging revealed an abscess of the falciform ligament. Our report demonstrates a multimodality diagnostic approach, including CECT, MRI and CEUS imaging. Additionally, we provide records of CEUS and fluoroscopy guided intervention, as well as CECT follow-up of treatment response. This case report illustrates the end-to-end involvement of the radiologist in the patient journey – including diagnosis, treatment and follow-up. Patient consent to case presentation has been obtained.

FINLAND

Name(s): Janne Nurminen

Affiliation: Turku University Hospital, Finland

Title: **Yet another Finn with rAAA?**

Abstract: Suspicion of ruptured abdominal aortic aneurysm (rAAA) is one of surgical emergencies requiring predefined treatment protocols and multiprofessional cooperation. In many cases, the suspicion of rAAA is justified and needs to be excluded. The radiologist and clinicians in duty must also be aware of other alternative causes of abdominal pain and other symptoms mimicking rAAA. Suggested differential diagnosis of rAAA include gastrointestinal bleeding, perforated peptic ulcer, ischemic bowel, nephrolithiasis, acute cholecystitis, large and small bowel obstruction, pancreatitis, myocardial infarction and also epileptic seizure with complications. In the case presented, a rare cause of lower abdominal and groin pain related to epileptic seizure is illustrated and discussed."

Name(s): Kyösti Kauppinen, J. Hirvonen, Roberto Blanco-Sequeiros

Affiliation: Turku University Hospital, Finland

Title: **Not enough liquor?**

Abstract: Intracranial hypotension (IH) is a relatively rare cause of headache in the emergency department, and may present after head trauma with nonspesific symptoms. Although non-enhanced CT images may appear normal in IH, some common imaging findings are downward displacement of midbrain, diffuse dural thickening and enhancement and distension of dural sinuses and veins. Commonly IH causes subdural effusions, which can be difficult to differentiate from chronic subdural hematomas in an elderly patient. IH may be caused by traumatic spinal dural tear and cerebrospinal fluid leak, which is usually treated conservatively or with lumbar epidural blood patch. In case of a leak in the upper spine, effectiveness of lumbar epidural blood patch can be unsatisfactory. In this case presentation an image guided intervention to treat symptomatic IH is presented and discussed.

ICELAND

Name(s): Gunnar Andresson

Affiliation: Landspitali University Hospital, Reykjavik, Iceland

Title: **From one generation to another - Could Grandma´s hemiparesis potentially save her grandchildren´s lives?**

Abstract: A 68 year old women from rural Iceland came to her physician with progressive weakness of her left side, in both upper and lower extremities and fatique for the past 2-3 days. She had a past history of ischemic stroke with minimal residual left upper extremity paresis. She denied any other symptoms such as headache, shortness of breath or chest pain. She was believed to have an ischemic stroke and was sent with the airplane ambulance to Reykjavík; during transport her consciousness declines and she becomes disoriented. Her past medical history included as well bowl problems and colon surgery, patent foramen ovale with atrial septal aneurysm, an aneurysm in the bifurcation of her left cerebri media artery and stenosis in her right internal carotid artery top.

Objective findings: decreased power in lower and upper extremities and in her facial muscles on the left side. Hyperresponsive reflexes on the left side and a positive Babinski reflex. Dysoriented.

The non-contrast CT head shows an old infarct in her right frontoparietal lobe but no new ischemic changes. CT perfusion shows an increased time to peak in most of her right hemisphere, however, cerebral blood volume is normal or only slightly reduced. Her aneurysm had grown from 3 mm to 4 mm in diameter, and she has findings suggestive of a carotid cavernous fistula. Further radiological examination in her case might prove beneficial for her decedents.

Name(s): Kristofer A. Magnosson

Affiliation: Landspitali University Hospital, Reykjavik, Iceland

Title: **Born with an unfortunate Zodiac sign**

Abstract: Six weeks old male infant presented to the emergency department due to problems feeding since birth and problems gaining weight. A few episodes of respiratory arrest had occured during that time. While penetrating the history it was also revealed that he had spasms in the upper and lower limbs from the age of 2-3 weeks with increasing frequency during the last week before coming to the hospital. Electro-encephalogram at arrival was normal, as well as CT of the head. MRI was performed under anaesthesia that revealed a surprising diagnosis.