Introduction

Acute respiratory distress (ARD) probably has several causes. Retropharyngeal abscess (RPA) formation may result in acute respiratory compromise due to airway obstruction or secondarily due to airway rupture. RPA may develop after surgical intervention or trauma. RPA may present clinically as airway obstruction, stridor or fever. The diagnosis of RPA is based on clinical suspicion and should be supported with imaging studies. Plain radiographs show widened prevertebral soft tissues in a lateral view of the neck. Computed tomography (CT) is also useful in the diagnosis of this pathology. The influence of improved imaging methods on management and outcome is uncertain. Magnetic resonance imaging (MRI) is currently the modality of choice for the evaluation of potential spinal infection. The advantages of MRI include the possibility of multiplanar imaging, direct evaluation of the bone marrow, and simultaneous visualisation of the neural structures. We report a case with cervical spondylodiscitis associated with RPA formation as an unusual cause of ARD.

Case report

A 41-year-old male patient reported to A&E with ARD, dysphagia and fever. Physical examination revealed a hypopharyngeal mass and laterocervical swelling. Chest and cardiac functioning were normal. The patient had a normal white blood cell count. HIV and hepatitis tests were negative. There was no chronic medical problem. CT and MRI showed a large RPA formation. MRI of the cervical spine showed C5/C6 spondylodiscitis and an epidural abscess at the level of C5-C7, as well as a large RPA (Figure 1a). T2-weighted images showed oedema of C5-C6 vertebral bodies, a spinal epidural abscess at the level of C5/C7 and high signal intensity of C5-C6 disc due to the infection (Figure 1b). T1-weighted images after the administration of gadolinium showed peripheral enhancement surrounding the abscess, and an epidural abscess compressing the spinal cord at the C5-7 level (Figure 1c). Emergent surgical drainage was carried out. Anterior debridement was followed by aggressive antibiotic treatment initiated at the department of Otorhinolaryngology-Head and Neck Surgery. The culture of aspirated pus material was negative. A brucella agglutination test was negative. The tuberculin skin test was positive. There was no family history of tuberculosis. After six months of triple anti-TBC drug therapy the patient recovered completely.

Discussion

Cold abscesses are, although common in spinal tuberculosis (68-93%), usually localised at the level of infection, following tissue planes and possibly extending into the spinal canal at any level.
may cause symptoms resulting from neurovascular compression, haemorrhage, and direct mass effect. The lumbar spine is the most frequent site of infection (54%), and the cervical site is the least common at 10%. Cervical spondylodiscitis may present with complaints of torticollis, neck pain and stiffness, stridor and dysphagia due to retropharyngeal and paraspinal cold abscess. However, in our case, the RPA was extremely large, causing dyspnoea. Cervical spondylodiscitis associated with RPA is a very rare cause of ARD.

Early diagnosis is crucial in the management of spine infections because delayed treatment can lead to increased morbidity and mortality. Surgical drainage and prolonged courses of antibiotics are the treatment methods, although some patients may be treated conservatively, especially if the disease is extensive, involving many levels of the spine. Diagnosis depends on obtaining an appropriate travel or geographic history, the clinical and laboratory features, and on occasion the specific radiological findings. Contrast-enhanced CT is a good diagnostic method for deep neck infections. Spondylodiscitis is being diagnosed with increasing frequency because of advances in MRI technology, which may lead to early diagnosis. Predisposing conditions include diabetes mellitus, intravenous drug abuse, multiple illnesses, and trauma.

The causes of spondylodiscitis include pyogenic, granulomatous spondylitis, intervertebral osteochondrosis, calcium pyrophosphate crystal deposition disease and axial neuroarthropathy. A granulomatous reaction occurs with a spectrum of bacterial, viral, parasitic, fungal infections, as well as some tumours, autoimmune diseases and idiopathic disorders. Granulomatous spondylitis is most commonly caused by mycobacterium tuberculosis. Pain and stiffness are the important and dominant symptoms. Two types of disease are recognised. In children under 10 years, involvement is extensive and diffuse with the formation of large abscesses. In cases over the age of 10, it is more confined and produces less pus, but is associated with a much higher incidence of Pott’s paraplegia. The commonest method of treatment is with antituberculous drugs, and anterior excision of diseased bone. This regime rapidly relieves the pain and compressive respiratory symptoms caused by abscesses.
Retropharyngeal abscess causing respiratory distress

RPA commonly develops when, after acute pharyngitis, the retropharyngeal lymph nodes within the retropharyngeal space become inflamed or tumorigenic. According to one report, 90% of RPA cases occur in children below age 6. RPA in adults has been reported to be due to vertebral osteomyelitis, caries of the cervical spine, or external injuries caused by endoscopes or fish bones.\(^{1,12}\)

A deep neck abscess may be life-threatening because of airway obstruction, involvement of the carotid sheath, spread into the mediastinum, or septic shock. The mortality rate of patients with these life-threatening complications is as high as 40-50\%.\(^{11,14}\)

In conclusion, RPA should be kept in mind in the differential diagnosis of ARD. This will allow for proper diagnosis by means of clinical and radiological examinations before other serious complications occur.

References


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