

Acute non-tuberculous retropharyngeal abscess in an adult. A case report and review of the literature

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Abstract

Retropharyngeal abscesses in adults are very rare and usually secondary to chronic tuberculous cervical spine osteomyelitis. We report a case of *Staphylococcus aureus* septicaemia with multifocal abscesses and osteomyelitis of the cervical spine causing a retropharyngeal abscess. This presented as neck pain and dysphagia following a fall. In addition, we have reviewed related cases.

Key words: Abscess, retropharyngeal; Cervical vertebrae; Osteomyelitis

Introduction

Retropharyngeal abscess associated with non-tuberculous cervical vertebral osteomyelitis has rarely been reported in adults. We describe a patient who presented with neck pain and dysphagia and found to have retropharyngeal abscess and osteomyelitis of the cervical spine, associated with septic arthritis and buttock abscess caused by *Staphylococcus aureus* septicaemia.

Case report

A 47-year-old insulin-dependent diabetic lady, with a history of optic atrophy, Wolf Parkinson White syndrome and an atrial septal defect, presented to A and E complaining of left-sided neck and chest pain following a fall three days before. On examination a superficial scalp abscess was found discharging pus, this had started three weeks before and had been incised and drained by her GP on three occasions. She had a pyrexia of 39°C. She was admitted to a medical ward and started on intravenous clarithromycin (due to a possible penicillin allergy).

During her stay she developed progressive dysphagia and was choking on her food, becoming cyanosed on one occasion. She also had an episode of supraventricular tachycardia. Blood cultures grew *Staphylococcus aureus* sensitive to flucloxacillin and vancomycin and she was started on intravenous flucloxacillin. Due to her persistent neck pain, lateral X-ray of the neck (Figure 1) one week after admission, revealed some thickness of soft tissue anterior to the lower cervical spine highly suggestive of a retropharyngeal collection. An ENT opinion was requested, and she was examined in our clinic two weeks after her admission. She was now afebrile and asymptomatic. Conventional and fiberoptic examination of her naso-, oro- and hypopharynx and larynx were unremarkable. She was slightly tender on the left side of her neck and had hard palpable mobile nodes in the left posterior triangle. An ultrasound scan showed a 9 mm deep fluid collection anterior to the cervical spine in the midline consistent with a liquefied haematoma or an abscess.

Given the clinical improvement it was decided to discharge the patient and arrangements made to review the lady in two weeks. Over this period she slowly deteriorated complaining of intrascapular back pain and



FIG. 1

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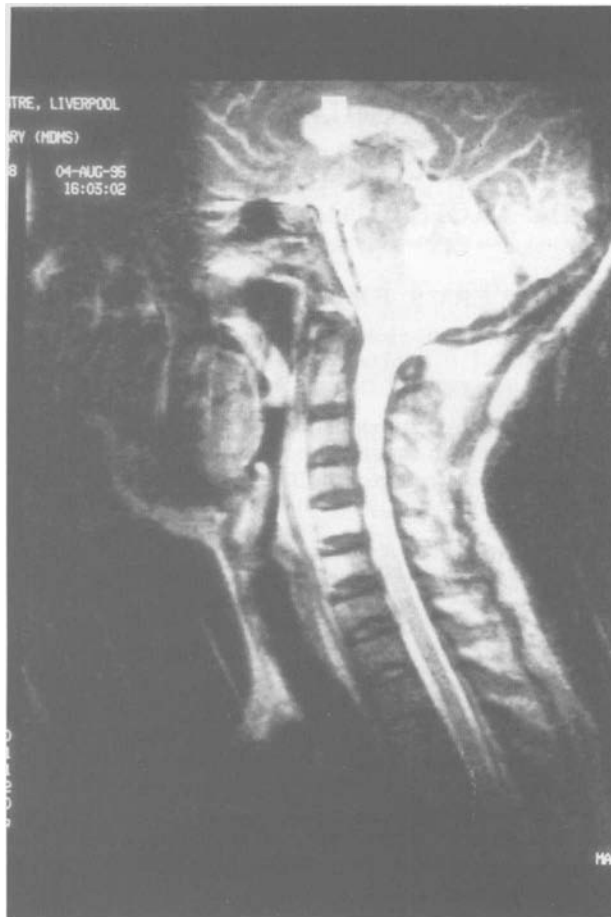


FIG. 2

on examination was irritable, disorientated and confused. She had some neck stiffness, left shoulder pain, and right thigh pain with a swelling in the right buttock. She had pyrexia of 38.5°C and a white cell count (WCC) of $28 \times 10^9/l$. Concern was raised regarding the possibility of a brain abscess or meningitis but computed tomography (CT) of the brain and lumbar puncture (LP) were negative. She was started on iv cefotaxime and metronidazole.

In view of the possible diagnosis of a retropharyngeal abscess a magnetic resonance image (MRI) was performed (Figure 2). This showed a prevertebral collection of fluid with high signal changes in C5 and C6 vertebrae consistent with osteomyelitis. Blood cultures grew *Staphylococcus aureus* and fucidic acid was added. She was anaemic (Hb:8.3 g/dl) and required four units of blood. Incision of the retropharyngeal abscess transorally released a moderate amount of pus. She also had drainage of her septic arthritis of the left shoulder and drainage of left buttock abscess. Pus from all three sites grew *Staphylococcus aureus*.

She remained in ITU for four days and made a slow recovery complicated by jaundice, uncontrolled diabetes mellitus, and a persistent pyrexia. She was discharged 40 days after surgery and a month later was continuing to improve with no dysphagia or trouble with her neck or buttock and only slight pain in her left shoulder.

Discussion

The retropharyngeal space is the fascial plane between the prevertebral fascia and the pharyngeal constrictor muscles. It extends from the skull base to the diaphragm and there is no anatomical barrier preventing an abscess

tracking down into the superior and posterior mediastinum (Yamakawa *et al.*, 1993), although the inflammatory reaction usually localizes the abscess to the retropharyngeal space. In children, retropharyngeal lymph nodes are described as a definite entity and form part of the lymphatic drainage system of head and neck. Older children have fewer retropharyngeal nodes and adults have only the node of Rouvier.

An acute non-tuberculous retropharyngeal abscess in adults is rare. The infection usually develops following direct trauma to the pharynx or oesophagus by a foreign body (Raj and Zarod, 1985), endoscope (Heller *et al.*, 1978), or an endotracheal tube (Heath and Price, 1977). Five cases of retropharyngeal abscess complicating non-tuberculous cervical osteomyelitis have been reported before (Faidas *et al.*, 1994). A spontaneous acute retropharyngeal abscess has only been reported once before (Raj and Zarod, 1985).

Including the present case all six patients had a risk factor for infection. Two were diabetic, two were alcohol abusers (Husaru and Nedzelski, 1979), one patient had recent fracture dislocation of C5–C6 and upper lobe pneumonitis (Benoit *et al.*, 1983), and one had Hodgkin's disease and had undergone radiotherapy to the neck (Baratt *et al.*, 1983). Five of the six patients presented with local symptoms relating to the retropharyngeal pathology, the other had complete sensorimotor quadriplegia below C5–C6 level. One other patient had symptoms of cervical cord compression with urinary retention (Faidas *et al.*, 1994). Our patient also had left shoulder pain due to septic arthritis and right thigh pain due to right buttock abscess.

Almost all cases were due to *Staphylococcus aureus*, but two had anaerobic streptococci and one patient with Hodgkin's disease grew *Coccidioides immitis*. Lateral X-rays of the neck demonstrated prevertebral tissue swelling in all six cases, and three patients also had evidence of cervical osteomyelitis. An ultrasound scan can detect a retropharyngeal abscess at an early stage (Ben-Ami *et al.*, 1979). MRI will show details of the abscess cavity but can also demonstrate cervical osteomyelitis. Cardiopulmonary complications occurred in four patients and one died as a result of a fracture dislocation of C5–C6. The diagnosis was not immediately obvious in four patients and a diagnostic delay is likely unless a high index of suspicion is maintained.

In conclusion, the possibility of a retropharyngeal abscess should be considered in patients presenting with dysphagia, neck discomfort, pyrexia and neck tenderness. Preliminary investigations should include a lateral soft tissue neck X-ray and an ultrasound scan. Further details of both the abscess and the cervical spine are shown well by CT or MRI.

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