

## Retropharyngeal abscess and acute torticollis

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### Abstract

Acute torticollis may result from an inflammatory process irritating the cervical muscles. In children there is often an association between acute torticollis and retropharyngeal cellulitis/abscess.

Over six weeks, two children with acute torticollis presented to our Department. Both children were found to have retropharyngeal cellulitis/abscess. The problem of differentiating between the non-suppurative and the suppurative phases of the disease process is discussed.

**Key words:** Pharyngeal diseases; Abscess, neck

### Introduction

Acute torticollis results from an inflammatory process that irritates the cervical muscles, nerves or vertebrae. Posturing of the head occurs with unilateral spasm of the sternocleidomastoid muscle. The head is drawn to the affected side and is usually rotated causing the chin to point towards the opposite side.

Retropharyngeal abscesses have been recognized for centuries, the Greek physician Galen was reported to have described a case (Frank, 1921). It is an infection of the deep neck space with its highest incidence in children.

A spectrum of disease exists, initially, retropharyngeal cellulitis develops, with localized thickening of the tissues. This may progress to retropharyngeal adenitis and if liquefaction of one of the lymph nodes takes place, an abscess will form.

Over six weeks, two children presented with acute torticollis. Computed tomography (CT) scan showed both children to be suffering from retropharyngeal cellulitis/abscess. One child subsequently underwent surgical exploration of his neck.

### Case reports

#### Case 1

An eight-year-old boy, presented with acute left torticollis, neck tenderness and headache. He gave a history of a preceding URTI lasting approximately one week. On examination he was pyrexial 38.8°C, had obvious left neck torticollis, left acute otitis media and the left tonsil was pushed anteriorly. He had a leucocytosis and a lateral neck X-ray showed enlargement of the retropharyngeal space. CT scans of his neck (Figure 1) show thickening of the retropharyngeal space with enlarged lymph nodes, one showing a lucent interior. High dose intravenous antibiotics (cefuroxime and metronidazole) and diclofenac (Voltarol) were given. A good response was obtained within 24 hours with reduced spasm in the sternocleidomastoid muscle, thus medical treatment was continued. After one week he was well enough to be discharged home on oral antibiotics. He has been seen regularly at follow-up and there are no sequelae from the acute episode.



FIG. 1

Axial CT scan of neck with contrast showing left retropharyngeal abscess.

#### Case 2

A four-year-old boy, presented with right torticollis. He gave a history of a preceding URTI lasting over two weeks. On arrival he was markedly pyrexial 40°C, with no signs of meningism. He was reluctant to allow examination of his throat, although it appeared that the right tonsil was pushed anteriorly. A lateral neck X-ray confirmed widening of the retropharyngeal space and a CT scan showed a retropharyngeal abscess (Figure 2). High dose intravenous

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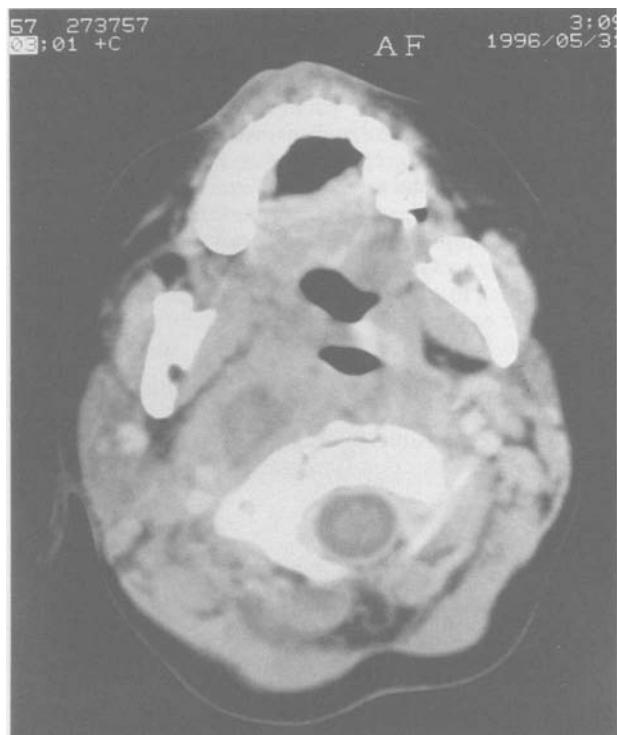


FIG. 2

Axial CT scan of neck with contrast showing right retropharyngeal abscess.

antibiotics (cefuroxime and metronidazole) and diclofenac (Voltarol) were given. As no improvement was seen over 24 hours, the neck was explored surgically via a lateral approach under general anaesthesia. At operation only retropharyngeal oedema and lymphadenitis were encountered. A drain was left *in situ* and the patient continued on intravenous antibiotics. A marked post-operative improvement was made, allowing discharge after six days on oral antibiotics. Regular follow-up revealed no sequelae from the acute episode and the surgical incision had healed well.

### Discussion

A retropharyngeal abscess is an infection of the deep neck space which exists anterior to the alar layer of the deep cervical fascia, posterior to the visceral or middle layer of deep cervical fascia and which extends from the base of the skull to the superior mediastinum at the seventh cervical or first thoracic vertebra. This space receives rich lymphatic drainage from adjacent muscles and bones, the nose and paranasal sinuses, nasopharynx, pharynx, middle ear and eustachian tube.

Abscesses in the retropharynx are most commonly reported in children under the age of three years, presenting with stridor or respiratory distress (Thompson *et al.*, 1988).

Torticollis does not imply a specific diagnosis (Table I). It can result from any process that damages or irritates the muscles, ligaments, or vertebrae of the neck, and can also arise from any lesion of the brain or spinal cord tracts governing head posture and orientation. Ocular and psychiatric disturbance can also cause torticollis (Kiwak, 1984) as can Sandifer's syndrome (a combination of hiatus hernia, gastroesophageal reflux and abnormal posturing of the neck).

TABLE I  
DIFFERENTIAL DIAGNOSIS OF TORTICOLLIS IN CHILDREN

Congenital	
Anomalies of atlas/vertebrae	
Congenital muscular torticollis	
Traumatic	
Non-traumatic	
Infectious	(Any head and neck infection)
Inflammatory	(Sandifer's syndrome)
Neurological	
Ocular	
Vestibular	
Spasmodic	
Pharmacological	
Psychological	

Acute non-traumatic torticollis in children is most likely to be associated with an inflammatory process such as tonsillitis. However, it can occur in epidemics as a result of a community-acquired viral infection (Neng *et al.*, 1983).

Retropharyngeal infection causes irritation and oedema of the paraspinal, longus colli and scalene group of neck muscles leading to compensatory hyperextension of the neck: to minimize the irritation and pain, the patient assumes a twisted neck posture.

The great problem for clinicians lies in differentiating between the pre-suppurative and suppurative phases of this disease process and this problem was highlighted by our experiences with both patients. The standard lateral neck X-ray does not differentiate between the various causes of tissue thickening which can exist in and around the retropharyngeal space (Barratt *et al.*, 1984). CT scanning is now generally accepted as the best investigation for the diagnosis of a retropharyngeal space infection and is also helpful in diagnosing not-traumatic atlanto-axial joint subluxation which may co-exist along with the inflammatory process (Endicott *et al.*, 1982).

Both patients underwent CT scanning which showed enlarged lymph nodes with lucent interiors and thickening of the retropharyngeal spaces (Figures 1 and 2). Sadly, the CT scan findings were not sufficiently specific for a radiologist to diagnose suppuration.

High-resolution ultrasound has been found to be useful and in a group of seven patients presenting with symptoms of retropharyngeal space infection, cellulitis, as opposed to an abscess, was accurately diagnosed (Ben-Ami *et al.*, 1990).

Mixed infections with Gram negative bacilli and anaerobes are the commonest pathogens found in pus obtained from retropharyngeal abscesses (Asmar, 1990) and combination-antibiotic therapy, including an anti-anaerobe (metronidazole), should be prescribed. When pus is thought to be present, surgical drainage should be performed.

Two studies have shown that one in eight children (12 per cent) presenting with acute torticollis were subsequently found to have a retropharyngeal cellulitis/abscess (Thompson *et al.*, 1988; Bredenkamp and Maceri, 1990).

In conclusion, all children presenting with acute torticollis should be investigated for a possible retropharyngeal space infection.

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