

Retropharyngeal abscess as a complication of oropharyngeal trauma in an 18-month-old child

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Abstract

An 18-month-old boy presented to the accident and emergency department following trauma to the oropharynx by a doll's umbrella. Although no significant injury could be identified at first, it later transpired that he had developed retropharyngeal surgical emphysema with abscess. This case report aims to review the nature of retropharyngeal abscesses and to highlight and re-emphasize the fact that apparently non-serious pharyngeal injuries in children should be treated with suspicion.

Key words: Retropharyngeal abscess; Child; Wound and injuries

Case report

An 18-month-old boy presented to the accident and emergency department with a history of intra-oral trauma. His father stated that he had been chewing on a small doll's umbrella, that had become lodged in the back of the throat. Following this the child had refused to take any fluids orally and the only abnormality found on examination was bruising to the lower lip. His parents were reassured and the patient discharged. Three hours later they re-presented, but routine examination proved unremarkable once more and he was sent home. Another four hours later they re-attended casualty. Examination revealed the patient to be drowsy with a temperature of 37.3°C, but again no significant signs. He was subsequently referred to the paediatricians and a lateral soft tissue neck X-ray was performed. This revealed retropharyngeal emphysema and soft tissue swelling of the posterior pharyngeal wall (Figure 1). Due to potential compromise to his airway, he was transferred to a paediatric unit with intensive care facilities. Intravenous antibiotics and fluids were started. He continued to have a swinging pyrexia, and by 48 hours after admission he developed left-sided torticollis. In view of this he was referred to our department. A repeat lateral soft tissue neck X-ray did not reveal any significant change. The following day a large retropharyngeal abscess was incised and drained externally and a nasogastric tube was passed for feeding. External incision and drainage was undertaken in view of the possible extension of the abscess to other lateral spaces. In addition, this facilitated the insertion of a drain to anticipate the potential re-accumulation of pus. His subsequent recovery was uneventful and he was discharged on the ninth post-operative day.

Discussion

The retropharyngeal space is limited anteriorly by the visceral layer of the deep cervical fascia and posteriorly by the alar layer of the prevertebral fascia. This latter layer fuses with the former approximately at the level of the first

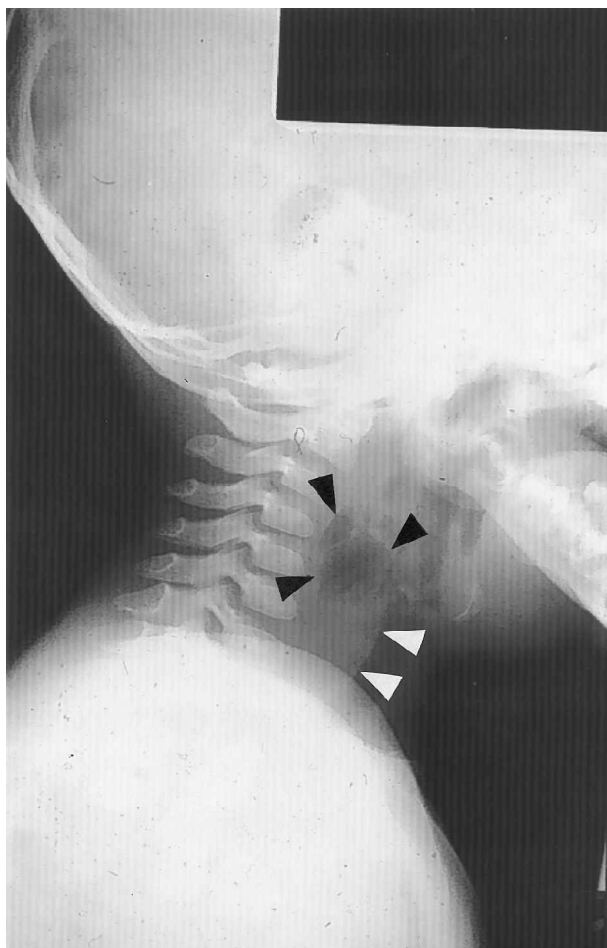


FIG. 1

Lateral soft tissue X-ray showing soft tissue swelling of posterior pharyngeal wall (white arrows), and dark gas shadows (black arrows) signifying retropharyngeal surgical emphysema.

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or second thoracic vertebra. Superiorly the space extends from the base of the skull and is largely limited to the neck yet has potential for mediastinal extension. It is occupied by connective tissue and lymph nodes of Rouvière.¹ These nodes are most abundant in children under the age of five, which explains the relatively high incidence of retropharyngeal abscess secondary to acute upper respiratory tract infections in this age group.² Other causes include perforating foreign body and tuberculous disease of the cervical spine.³

It might be thought that penetrating intra-oral injuries in children are fairly common, taking into consideration their energetic nature and their fascination with placing objects of various shapes and sizes in their mouths. However, the true incidence of such injuries is unknown and there is a tendency to treat such cases lightly when presented with what at first appears to be a child with superficial trauma to the oral cavity. The majority of cases heal spontaneously and require no further treatment.⁴ Nevertheless, there are occasions when children can be faced with serious, potentially lethal complications, such as stridor, cervical surgical emphysema, pneumomediastinum, mediastinal sepsis and pneumothorax all from penetrating intra-oral trauma.⁵ The child with retropharyngeal abscess is pyrexial and ill. Dysphagia and odynophagia, with or without drooling of saliva may be additional signs, although they may be difficult to assess in the extremely young. Holding the head rigid, or torticollis, is fairly common. Any inflammatory process irritating cervical vertebrae, muscles or nerves will produce acute torticollis.⁶ Typically the head is drawn towards the affected side with the chin pointing to the opposite side. This posturing is due to unilateral sternocleidomastoid spasm.

A lateral soft tissue X-ray will show retropharyngeal gas shadows and thickening of the prevertebral soft tissues (anteroposterior diameter should not exceed diameter of vertebral bodies). However, an abscess cannot be identified with this modality, unless a fluid level is seen. Computed tomography (CT) will be more sensitive in identifying abscess formation, but it is not 100 per cent specific as illustrated by abscesses identified per-operatively which have not been demonstrated on CT.⁷ Some authors suggest that all suspected deep neck abscesses should have CT scans.⁸ Others practise CT scans requests on only 50 per cent of patients⁹ in whom there is uncertainty about the extent of the abscess, or to differentiate abscess from cellulitis.

Regardless of the methods used to identify retropharyngeal abscesses the most important aspect is to clinically recognize them as a possibility. Potentially lethal complications have been mentioned above, others include airway obstruction due to surgical emphysema or abscess,^{4,5,10} thrombosis of the carotid artery,¹¹ or even erosion of this major vessel.¹²

In view of the list of potential complications following pharyngeal trauma it is quite clear that children with untoward symptoms following such an event should be admitted to hospital. The grey area lies with symptom-free individuals. There is controversy in this respect with some authors advocating admission only for those with retropharyngeal trauma,⁴ while others suggest allowing the child home under parental observation.¹² Perhaps prevention is better than cure and, as others have put forward, parents need to be educated and warned of the dangers of allowing toddlers to wander unsupervised with sharp objects in their mouths.⁵ This case report highlights the fact that doctors, particularly those in first-line management, must be familiar with the potential dangers of oropharyngeal trauma in children despite the fact that initially there may be few clinical signs.

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