EMERGENCY CASEBOOK

Mediastinal emphysema after a minor oral laceration

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CASE REPORT

A 7 year old boy attended the accident and emergency department with facial swelling and chest discomfort. Two hours earlier he was playing with a luggage strap by placing the hook inside his mouth.

Examination revealed a small laceration to the buccal surface of his left cheek that was not bleeding. He had a soft, mildly tender swelling over the left cheek with subcutaneous emphysema over his neck down to the suprasternal notch. Examination of the chest was normal as were the vital signs and oxygen saturation.

Radiography of the soft tissues of the neck showed emphysema along tissue planes (fig 1) and chest radiograph revealed pneumomediastinum with no evidence of a pneumothorax (fig 2).

The child was admitted to the hospital for observation and was discharged two days later without complication.

The association of mediastinal emphysema with facial injuries is rare, though it has been reported after nasal fracture, mandibular fracture, oral laceration and dental extraction.^{1–3}

The probable mechanism by which air travels down to the mediastinum is a combination of positive and negative pressure that drives the air the sublingual, pterygomandibular and parapharyngeal spaces that communicate with retropharyngeal space, which in turn communicate freely with the mediastinum.³

The clinical presentation of mediastinal emphysema is well documented, the most common symptoms being chest pain and shortness of breath, however the patient may complain of sore throat, dysphagia and altered voice. Hamman's sign is an

Figure 2 Chest radiograph showing the mediastinal emphysema.

important sign that can be elicited in 50%–80% of cases and consists of a crunching sound that is synchronous with the cardiac cycle and best heard over the third to fifth intercostal spaces to the left of the sternum.²

The diagnosis of mediastinal emphysema will depend on radiology of the chest, which can detect any associated pneumothorax. Computed tomography of the chest may be more accurate.¹

Most cases of mediastinal emphysema resolve spontaneously. Treatment consists of observation and antibiotic cover in addition to treating the cause. Only rarely is drainage through a chest tube is required.³

Mediastinal emphysema is a very rare complication of facial lacerations but should be considered in the presence of concomitant chest pain or facial emphysema.

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Figure 1 Radiograph of the soft tissues of neck showing air in tissue planes.