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Spontaneous laryngeal emphysema

(A case report)

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EMPHYSEMA is a condition in which air or other gases penetrate the connective tissue causing swelling of that region.

In 1850 Knott (as quoted by Hunsicker *et al.*, 1977) described a patient who developed subcutaneous emphysema following a violent coughing fit. Since that time various cases of this condition have been reported. To our knowledge, no case of spontaneous laryngeal emphysema has been described.

Case Report

A 42-year-old Black male presented with a history of four days' difficulty in swallowing and hoarseness. No history of trauma, allergy or drugs was elicited. He did not smoke and the past medical history was non-contributory.

Clinical examination of the patient revealed an emphysematous swelling of the right vallecula and right aryepiglottic fold without impairment of the airway. No crepitations were felt over the neck region and there was no tenderness over the laryngeal cartilages. Routine blood examination was normal. The chest X-ray was normal and the lateral neck film confirmed the presence of air in the vallecula (Fig. 1). Tomography of the larynx was performed but the swelling was resolved by the time that the procedure had been performed.

A direct laryngoscopy performed three days after admission, revealed only slight inflammation of the right aryepiglottic fold. No evidence of mucosal laceration or other abnormality was seen.

The patient did not require treatment, having recovered spontaneously.

Discussion

Spontaneous subcutaneous and mediastinal emphysema has been reported in several conditions associated with increased intrathoracic pressure, i.e., asthma, Valsalva manoeuvre, laryngo-tracheo-bronchitis and measles (accompanied by laryngitis or bronchopneumonia) (Steffey and Cohn, 1974).

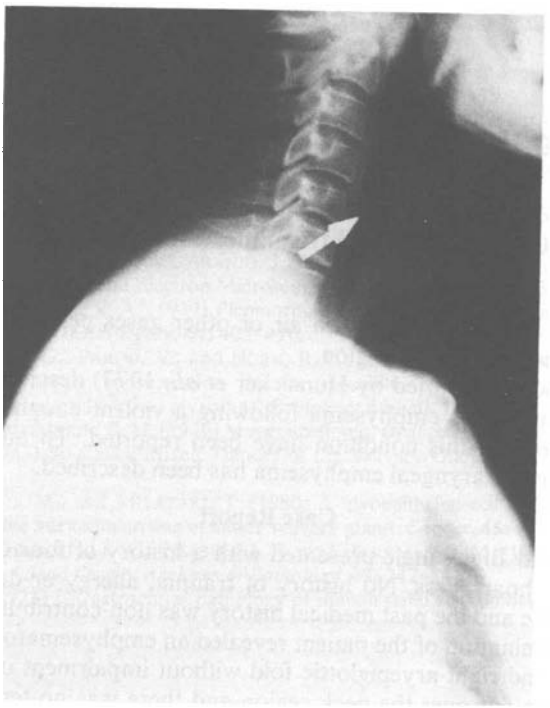
In asthma the basic mechanism is increased intra-alveolar pressure due to increased expiratory resistance caused by bronchospasm or mucous plugs. There may be also some weakness of the alveolar wall due to the chronic hyperaeration.

The Valsalva manoeuvre may cause spontaneous mediastinal emphysema when intrabronchial pressure is built up against a closed glottis.

Spontaneous subcutaneous emphysema may also involve the mediastinum. This complication results from penetrating trauma, endoscopic procedures such as direct laryngoscopy, bronchoscopy, esophagoscopy, mediastinoscopy or tracheostomy, particularly in children (Hunsicker *et al.*, 1977).

Surgical emphysema of the face and neck can occur following minor buccal soft-tissue trauma, dental procedures or trauma involving both hard and soft tissues (Lee and Bordenca, 1973).

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Emphysema of the neck and thorax with pneumothorax during adenotonsillectomy has been described (Jash, 1973).

It is not generally appreciated that subcutaneous emphysema may occur spontaneously in patients who have had neither trauma nor surgery.

The present case is an example of spontaneous laryngeal emphysema lacking a plausible explanation. The patient denied any trauma of the larynx, shouting or violent coughing and his work did not require any vocal effort.

We cannot exclude a minimal trauma to the laryngeal or esophageal area, that the patient was not aware of, followed by air penetration to the fascial planes along the trachea and esophagus, localizing in the supraglottic area such as that following trauma by a foreign body.

Summary

An unusual case of spontaneous laryngeal emphysema is presented. No causative factors were found to produce this situation and no satisfactory explanation could be given.

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