LARYNGOCELE – AN ANAESTHETIC HAZARD

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A LARYNGOCELE is a pathological enlargement of the saccule of a laryngeal ventricle.¹ Horowitz reports that it was first recognised in 1829, when Larrey, a surgeon in Napoleon's army of occupation in Egypt, observed tumors in the neck of blind men who were employed in reciting prayers every hour of the day from the temple minarets.²

This is a report of a case of latent laryngocele diagnosed during anaesthesia.

An eight-year-old female child was to be anaesthetized for tonsillectomy. Preoperative investigation recorded Hbg 10.5 g/100 ml; urine—normal; chest—clear; bleeding and clotting time normal. Premedication was intramuscular atropine 0.6 mg one and a half hours before operation. The trachea was intubated under deep ether anaesthesia with a number 4 plain Magill's tube. However, no air flow was felt through the tube after intubation, although the patient was breathing spontaneously. The anaesthetist tried to blow through the tube to make sure that the tube had not slipped into the oesophagus. To his surprise a swelling appeared on the right side of the neck. The child was extubated immediately, oxygenated and was allowed to recover from anaesthesia.

On subsequent induction of anaesthesia direct laryngoscopy showed an opening in the larynx on the right side just above the true vocal cord. On the previous occasion the tube must have entered this abnormal opening.

After tracheal intubation on this occasion gas flowed through the tube and air entry to the lungs was present bilaterally. The patient was then subjected to tonsillectomy.

The recovery was uneventful. A month later the child was called for further investigation. An X-ray of the neck was taken while blowing against closed nostrils and mouth. This increase of pressure increased the size of the swelling (Figure 1). Indirect laryngoscopy did not reveal any opening.

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FIGURE 1

DISCUSSION

Laryngoceles may appear at any age and have been reported in quite young children.

Several factors are known to enter into the production of a laryngocele. Negus believes that they occur more frequently in people with an atavism inherited from some tree-climbing ancestors.³

A more important factor in most cases probably is a sustained increase in intrathoracic pressure from such events as coughing, sneezing, wind instrument playing, child birth, or weight lifting.¹ Laryngoceles are classified as internal if they remain within the laryngeal skeleton and external if they have extended into the neck. The nuchal extension is through the perforation in the thyrohyoid membrane made by the superior laryngeal nerve and vessels. They are classified as mixed if both internal and external components are present. Seventy per cent of laryngoceles are internal, 25 per cent are external and five per cent are mixed.⁴

Laryngoceles become clinically perceptible only when inflated by air forced into them or when filled with a collection of fluid.⁵

Internal laryngocele may cause hoarseness and/or obstructive dyspnoea, but the external type is usually asymptomatic. It may cause local discomfort and headache and might impede venous drainage if it is very large. The pressure from

it may interfere with lymph drainage enough to produce oedema of the cords and larynx. If the sac becomes infected it may form a pyocele. If it ruptures emphysema of the tissues of the neck will follow. Occasionally carcinoma of the larynx is associated with laryngocele.³

Laryngoceles are diagnosed by proper history and examination. Antero-posterior and lateral X-rays of the neck are taken to determine the size of the swelling and this is confirmed by injecting lipiodol into the sac. Direct laryngoscopy is also carried out to differentiate between internal and external types. The best manoeuvre to use in detecting laryngoceles by radiography is to have the patient increase his intraglottic pressure.

Our patient was followed for about one year and, to our surprise, we found that the swelling in the neck had almost disappeared and could not be seen with increasing intra-laryngeal pressure. This may be because of fibrosis and closure of the opening of laryngocele, which is known to occur, perhaps due to trauma of intubation.

One case is reported in which death occurred from respiratory obstruction through emptying of laryngocele contents into the trachea and bronchial tree.

SUMMARY

The authors report a case in which a previously unrecognized laryngocele in an eight-year-old

child was accidentally intubated and inflated after induction of anaesthesia for tonsillectomy. The nature and diagnosis of laryngocele are discussed.

RÉSUMÉ

Les auteurs rapportent le cas d'un enfant de huit ans porteur d'un laryngocèle non diagnostiqué qui fut intubé accidentellement et par la suite insufflé lors de l'induction de l'anesthésie pour amygdaléctomie et en discutent la nature et le diagnostic.

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