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Post laryngectomy diverticulum—a case report

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Abstract

A case of a pharyngeal diverticulum complicating a total laryngectomy is presented. Possible aetiology and management are discussed.

Key words: Laryngectomy, surgical complications; Diverticulum.

Introduction

A pharyngeal diverticulum is a known complication following total laryngectomy. It occurs frequently if the vertical type of pharyngeal closure is used, although seldom gives rise to symptoms requiring surgical intervention. We discuss its possible aetiology and management.

Case history

A 59-year-old man presented to the ENT Department with a two-month history of progressive hoarseness. A T_3 carcinoma of the glottis was diagnosed. This was managed by performing a total laryngectomy with primary tracheo-oesophageal puncture for subsequent insertion of a voice prosthesis. The pharynx was closed longitudinally in two layers using an absorbable suture. The patient was discharged from hospital 14 days later, swallowing well and with a Blom Singer valve *in situ*.

The patient was re-admitted 25 days later with a history of progressive dysphagia and a painful suprastomal swelling. Fibreoptic naso-pharyngoscopy, under local anaesthetic, showed a diverticulum anterior to the pharynx. This was confirmed by barium swallow (Fig. 1). Systemic antibiotics were

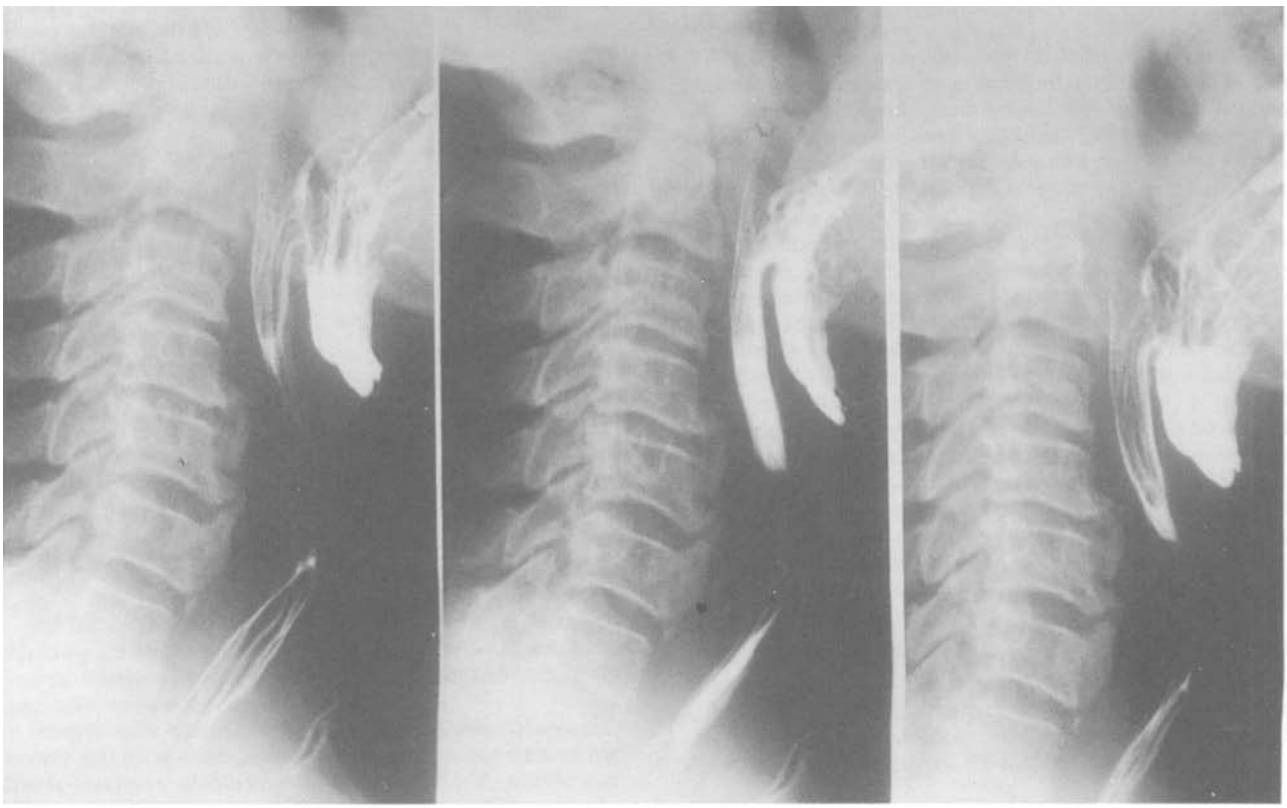

Fig. 1
Lateral view of barium swallow showing anterior diverticulum.

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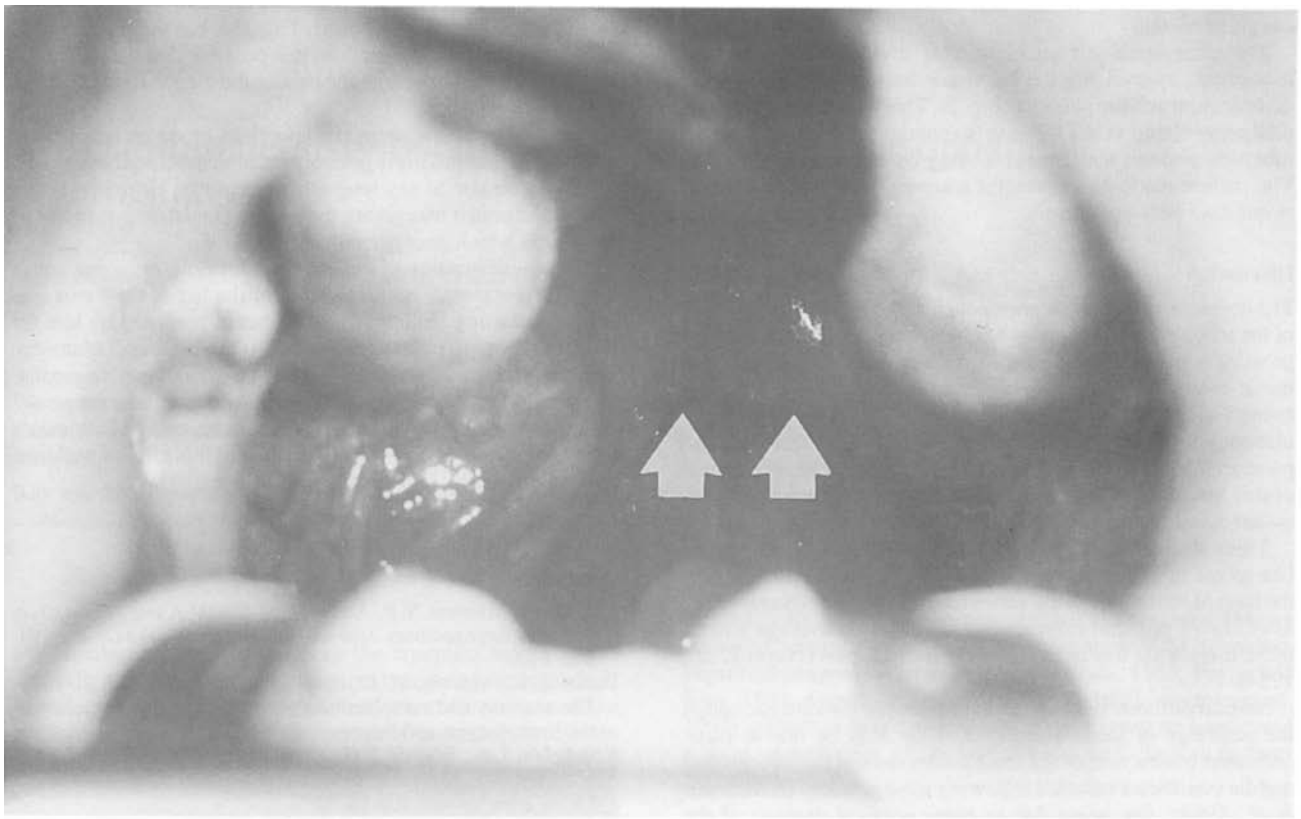

Fig. 2
View of bar between pharyngeal diverticulum and pharynx (arrows).

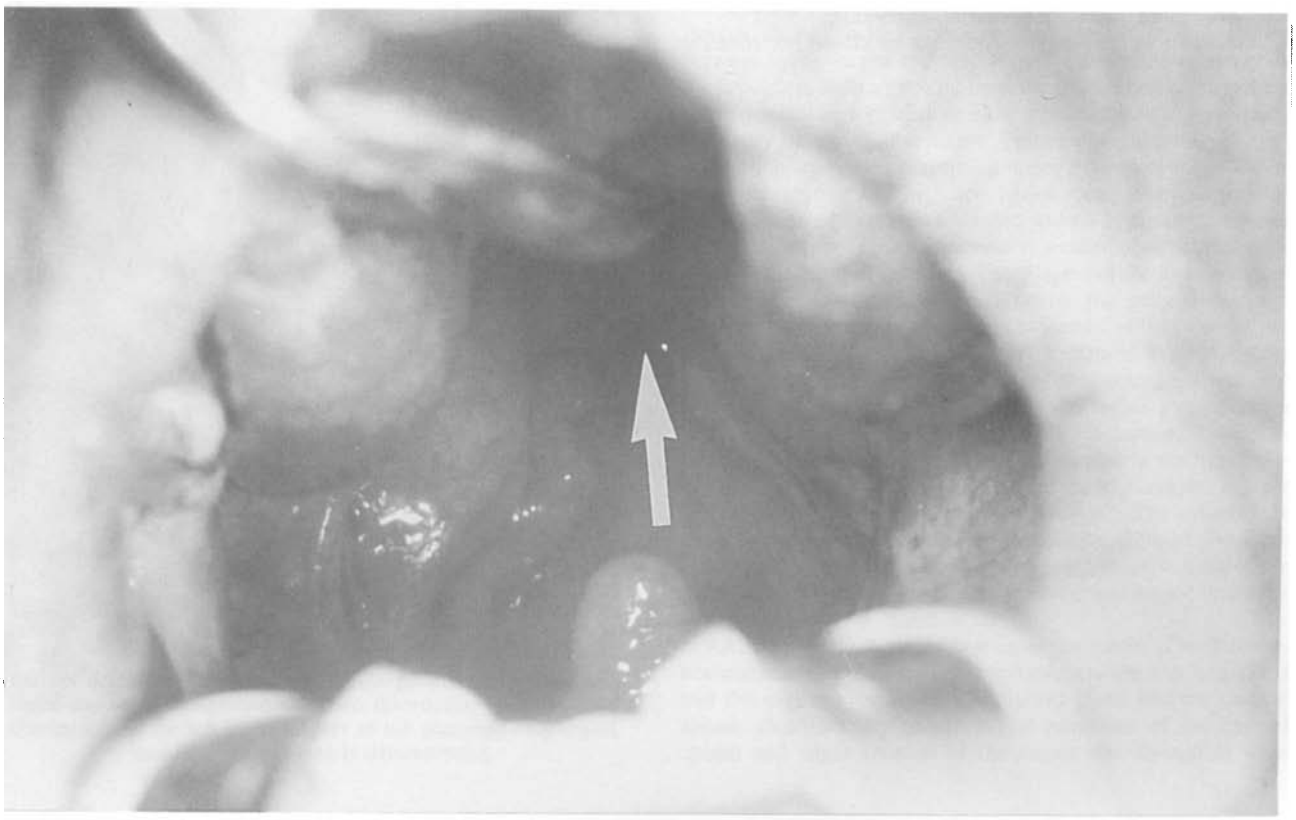

Fig. 3
View of divided bar (arrow).

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given and the swelling resolved completely, although, the dysphagia persisted.

The pharyngeal diverticulum was divided under general anaesthetic by excising the bar tissue between the pharyngeal diverticulum and the pharynx (Fig. 2). This was achieved using a diathermy clamp as in Dolhman's apparatus (Fig. 3). A feeding tube was inserted and enteral feeding continued for four days. The patient made an uneventful recovery and was discharged seven days post-operatively.

Discussion

The development of an anterior pouch at the junction of the base of the tongue and the pharynx has been previously reported. The prominent posterior wall of the pouch appears on a lateral soft tissue radiograph like an epiglottis and hence is sometimes termed a 'pseudo-epiglottis'. Both post-operative pharyngocutaneous fistula and dysphagia have been correlated with the presence of this pouch (Kritchener *et al.*, 1963). The appearance of this 'pseudo-epiglottis' is easily demonstrated using fibreoptic per-nasal pharyngoscopy and barium fluoroscopy.

Three studies have demonstrated a high incidence of a pouch-like recess in the anterior wall of the pharynx at its junction with the base of the tongue. This varies from 35 per cent (Nayar *et al.*, 1984) to 75 per cent (Davis *et al.*, 1982). The average size of these diverticula has been shown to be 10.2 mm (Nayar *et al.*, 1984).

Several different hypotheses have been put forward to explain the aetiology of these diverticula. They may be due to incoordinated contraction of the muscle remnants of the inferior and middle constrictor muscles following laryngectomy (Kritchener *et al.*, 1963); this being due to either surgical damage of the motor nerve supply or failure to achieve adequate anterior midline approximation. Excessive mucosa folds on itself and when this fold is horizontally disposed, it resembles a pseudo-epiglottis on endoscopic examination. Its formation has been related to the type of closure. It has been shown to occur in 67 per cent of T-type closures of the pharynx but in all cases that had been closed longitudinally (Davis *et al.*, 1982).

In this patient the pharynx could not be closed horizontally due to the extent of tumour resection necessary. A longitudinal closure are therefore performed. This also has the advantage of avoiding a three-point junction. It is possible that the redundant mucosa at the junction with the base of the tongue resulted in this complication.

As far as we know, there is no previous report on how to deal with this problem. This is possibly because most pouches are too small to give rise to any long-term symptoms. However, in our patient the pouch was giving the patient persistent symptoms of dysphagia which necessitated treatment.

Direct visualization of the pouch was simple, requiring only a Boyle Davis mouth gag. Resection of the bar of the tissue was carried out using Dolhman's apparatus as proposed by him for the treatment of pharyngeal pouch (Dohlman and Mattsson, 1960). It was, however, not possible to use Dolhman's oesophagoscope as the anterior angulation of the pouch was too acute.

Resection of the dividing soft tissue bridge using a Dohlman's type approach is appropriate in managing this kind of problem, thus minimalising long-term complications.

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