CT scanning and laryngocoeles


Abstract
Laryngocoele is a well known but uncommon condition in Otolaryngology. CT scanning is superior to other imaging modalities in establishing the diagnosis, delineating the anatomy and aiding in the management. A case is presented with a review of the literature.

Key words: Laryngeal diseases, laryngocoele; Tomography, X-ray computed

Case report
A 70-year-old lady was admitted with a three-month history of progressive hoarseness, a three-day history of an increasing neck lump and a one-day history of stridor. Initial assessment showed adequate ventilation and oxygen saturation and a soft neck swelling 10 cm in diameter beneath the mandible and abutting the laryngeal cartilages. Nasendoscopical examination revealed a smooth, right pyriform fossa lesion reducing the airway by an estimated 70 per cent. The initial diagnosis was a squamous carcinoma or lymphoma.

Lateral X-ray of the neck (Figure 1) showed an air-containing cavity with a fluid level in the right side of the neck. It was thought to be a pyocele. Urgent laryngoscopy and tracheostomy demonstrated that the mass was in the supraglottis expanding the arypepiglottic fold. Several biopsies were taken. Histological examination demonstrated inflammatory cells only.

Ultrasound confirmed the fluid contents but assessment medially was obscured by the air-containing passages. Dynamic CT with IV contrast (Figure 2) at the same time showed a large cavity which contained fluid, with some rim enhancement and confirmed the communication in the larynx at the level of the folds.

At laser incision of the lesion, pus was aspirated confirming the diagnosis of an infected laryngocoele. The patient was treated with a six-week course of antibiotics prior to assessment for further surgery. Follow-up CT confirmed complete resol-
Follow-up CT scan showing resolution of contained fluid (not the same level as in Figure 2).

Resolution of the contained pus, and showed a large right internal and external laryngocoele (Figure 3). This was confirmed at surgery (Figure 4). Following dissection of the external part the internal portion was approached via a laryngofissure. The origin sealed with a purse string, and the defect in the thyrohyoid membrane closed using local thyrohyoid muscle.

Histological examination of the whole specimen showed no associated malignancy. Closure of the tracheostomy followed after an interval of a few weeks and the patient continues to be well.

Discussion

Despite the clear delineation and excellent tissue contrast given by CT, relatively few cases are reported using modern scanning techniques for this condition. Silverman and Korobkin (1982) reported one such case: these authors had a series of three patients with laryngocoeles. In the case reported CT scanning demonstrated the anatomical extent of the lesion more precisely than the other radiological techniques employed. These included plain radiographs, xerography, tomography and contrast laryngography. Apparently no surgical verification of the extent of the three lesions was carried out, due to their small size and minimal symptoms.

Six cases were reported by Glazer et al. (1983). Again the superiority of CT scanning over the older methods of radiological assessment was emphasized. These authors also made the point that CT scans may demonstrate a mixed laryngocoele where only an internal laryngocoele had been suspected. This makes an external approach with excision more appropriate than internal marsupialization.

Emphasizing the value that modern scanning techniques have in the assessment of neck lesions. One recent paper (Saleh et al., 1992) surveyed the results of CT scans in 24 patients with submucosal laryngeal masses: 13 cases of squamous carcinoma, five laryngocoeles, two chondrosarcomas and one each of paraganglioma, fibrosarcoma, lymphoma and tuberculous laryngitis were identified. In some cases the diagnosis had been delayed by several months in the absence of a CT scan.

Exposure of the laryngocoele at surgery.
References


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