Tracheocele: An Unusual Cause of Dysphonia
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ABSTRACT

Educational objectives: Describe the clinical presentation and management of tracheoceles.
Study Design: Retrospective case review and review of the medical literature.
Results: A 56 year old female patient presented with progressive dysphonia and history of benign thyroid nodules. Flexible laryngoscopy revealed a severely paretic right true vocal cord. Computed tomography revealed a right sided air filled sac in the tracheoesophageal groove suspicious for causing compression of the right recurrent laryngeal nerve. The patient underwent an elective right hemithyroidectomy and resection of the air filled sac. Post operative pathology of the air filled sac was consistent with a tracheocele. A larnygoscopy performed 6 months postoperatively demonstrated recovery of right cord function.

INTRODUCTION

Tracheoceles are rare with the prevalence being 1-2% as reported in several autopsy series (1,2). They typically present as a single, air-filled sac, that develop through a weakness in the right posterior lateral tracheal wall. In previously described cases CT scans of the chest and neck are most useful in identifying the etiology (4). We report on a unique case in which the tracheocele caused right true vocal cord paresis due to pressure on the recurrent laryngeal nerve in the paraesophageal groove. Following successful removal of the tracheocele the patient's symptoms resolved with recovery of the paretic cord.

HISTORY AND PHYSICAL

This is a case of a 56 year old Caucasian white female with a history of acinic cell adenocarcinoma of the right parotid which was removed in 2001. This was followed by semiannual chest plain films (Fig 1). She complained of associated dysphonia over the preceding year thought to be LPR diagnosed by flexible laryngoscopy. There was no evidence of paresis at that time. She subsequently developed bronchitis needing antibiotics, right neck pain with occasional reactive lymphadenitis on the right side following her surgery. The patient continued to have sporadic dysphonia and neck pain over the subsequent 8 years. She was seen for a new diagnosis of a multinodular goiter with persistent dysphonia in 2008. A flexible laryngoscopy with stroboscopy was performed at that time and revealed right true vocal fold was paresis (Fig 2). To further investigate, a CT scan from skull base to carina was obtained which revealed a right sided tracheocele that filled the right tracheoesophageal groove (Fig 3).

IMAGING

Fig 2. Preoperative montage of vocal cord cycle demonstrating right true vocal cord paresis. Full glottic closure was maintained. There was no evidence of masses or lesions.

Fig 3 & 4. A CT Scan of the Head/Neck revealed a right posterior lateral tracheocele (Fig 3) that was 2 x 2 cm in size associated with the right tracheoesophageal groove. Right thyroid nodule (Fig 4) was 1.5 cm x 1cm in size. Small sub centimeter thyroid nodule on the left.

OPERATION

The patient was counseled on the risks and benefits of the procedure and informed consent obtain. The NIM-Response® 2.0 Nerve Integrity Monitoring System (Medtronic, Jacksonville, FL) was used. A standard thyroid incision was made. The recurrent laryngeal nerve was first identified and spared. The nerve was found between the tracheocele and the thyroid gland. This was most likely compressing the nerve resulting in right vocal cord paresis. A standard right hemithyroidectomy was performed followed by safe dissection of the tracheocele knowing the location of the nerve. The tracheocele was identified and safely excised. A standard right hemithyroidectomy was performed followed by safe dissection of the tracheocele knowing the location of the nerve. The tracheocele was pedicled at the right posterolateral aspect of the trachea which was sharply incised and the defect closed. The wound was then irrigated and closed in layers and small drain was placed. The nerve stimulated at the end of the case. Injection laryngoplasty was then performed to medialize the right cord with a temporary agent.

REFERENCES


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