AMERICAN ACADEMY OF OTOLARYNGOLOGY–HEAD AND NECK SURGERY FOUNDATION

OTO Open
2022, Vol. 6(1) 1–3

DOI: 10.1177/2473974X221091538
http://oto-open.org
SAGE

Atypical Presentation of a Combined Internal/External Saccular Cyst: A Case Report

Benjamin Wajsberg[1], Robert W. Bastian, MD[1], and Rebecca C. Hoesli, MD[1]

Keywords

saccular cyst, laryngeal cyst

Received February 9, 2022; accepted March 12, 2022.

A saccular cyst is an uncommon mucus-containing dilatation of the laryngeal saccule. It is typically classified as anterior (presenting from the anterior ventricle) or lateral (deep to the false and aryepiglottic folds), with 85.7% being anterior in one study.[1] Lateral saccular cysts are further classified as internal (confined to the endolarynx), external (presenting into the neck), or combined.

Saccular cysts may be asymptomatic and diagnosed incidentally on flexible laryngoscopy or radiography. An anterior saccular cyst typically appears as a round submucosal mass protruding from the anterior ventricle, while lateral saccular cysts present as a bulge in the aryepiglottic fold, pyriform sinus, or lateral vallecula. If the distended saccule (mucus or air filled) dissects over the top of the thyroid cartilage, it can also appear as a lateral neck mass.[2] In this case report, we discuss an unusual infraglottic presentation of a combined internal/external saccular cyst.

Regulatory exemption criteria were met per WCG IRB.

Case Report

A 62-year-old woman presented with a chief complaint of a 6- to 8-month history of hoarseness. On evaluation, the patient's voice was grossly dysphonic without neurogenic instability. Videolaryngoscopy revealed bilateral supraglottic fullness, greater on the right, which encompassed the false fold and aryepiglottic fold (**Figure 1**). A rounded mass was also found in the immediate subglottis, emanating from just below the right vocal fold, displacing it superiorly. No mass was seen from the ventricle itself.

A computed tomography scan was obtained, which showed 1.4 × 2.3 × 1.7 cm of soft tissue fullness in the paraglottic space, extending superiorly through the thyrohyoid membrane abutting the inner surface of strap muscles and the great vessels (**Figure 2**). Despite the unusual presentation infraglottically, the decision was made to proceed with endoscopic excision due to the effect on her voice and her smoking history.

Intraoperatively, no ventricular mass was seen initially, but when pressure was applied over the false fold, a cystic protrusion appeared from the ventricle onto the upper surface of the true fold, consistent with a saccular cyst. Surgical excision began as planned with an incision through the false fold until the cyst wall was reached. The lateral extent was followed and dissected off the deep surface of the strap muscles while the cyst was retracted medially into the larynx until all of the external elements were excised. Histologic examination demonstrated a benign cystic mass with mixed squamous and respiratory mucosal lining, consistent with saccular cyst of the larynx.

No tracheotomy was needed. The patient was sent home the same day and recovered without complication. The patient noted immediate improvement in her voice, with postoperative laryngoscopy demonstrating resolution of the subglottic mass. Videostroboscopic examination showed good vibration of both vocal folds. On 3-month follow-up, the patient reported that her voice had returned to normal. Endoscopy revealed a well-healed area of resection on the right, with no evidence of remaining cyst.

Discussion

Saccular cysts can present variably, depending on their extent. This patient's presentation was unusual because, in addition to the typical supraglottic submucosal fullness, she manifested bulging of the infraglottic mucosa and yet had no initial findings in the ventricle, which we hypothesize was due to infraglottic extension of the cyst via the paraglottic space. To date, the literature has not reported any instances of a combined saccular cyst with an infraglottic component.

[1]Bastian Voice Institute, Downers Grove, Illinois, USA

Corresponding Author:
Benjamin Wajsberg, Bastian Voice Institute, 3010 Highland Parkway, Suite 550, Downers Grove, IL 60515, USA.
Email: benjamin.wajsberg@einsteinmed.org

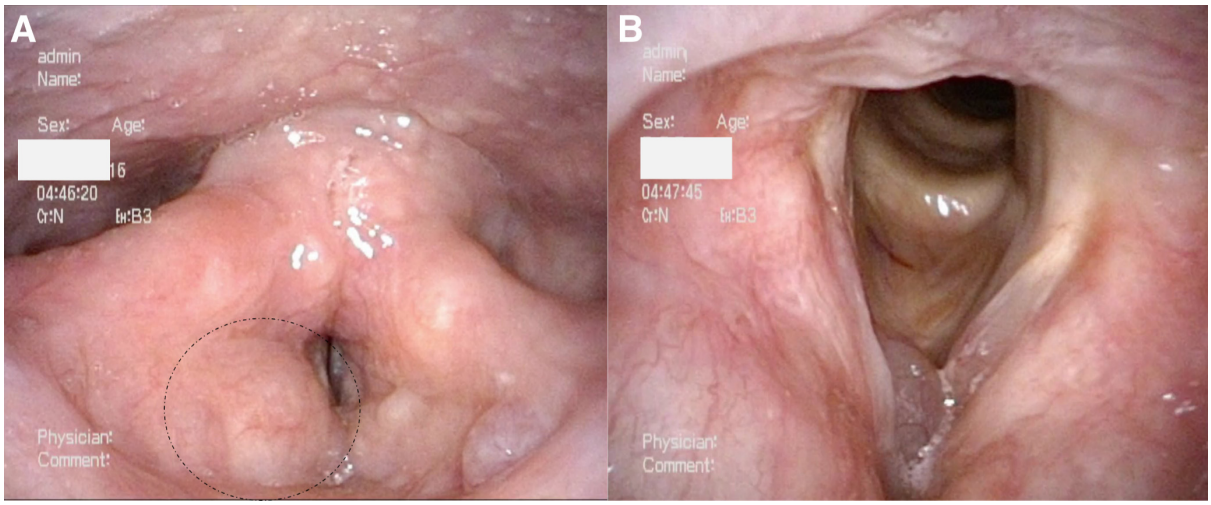

Figure 1. Videolaryngoscopy showing bilateral supraglottic fullness (a), greater on the right, and a rounded mass in the immediate subglottis (b), pushing vocal fold superiorly.

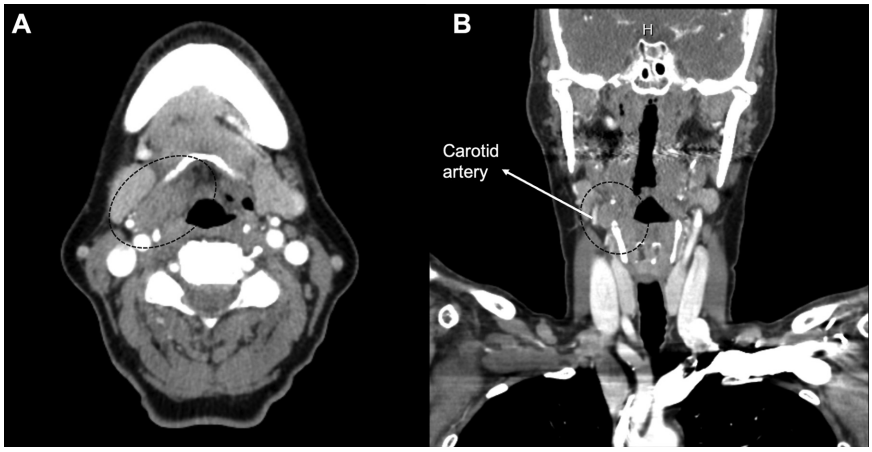

Figure 2. Axial (a) and coronal (b) computed tomography showing soft tissue fullness (1.4 × 2.3 × 1.7 cm) in the paraglottic space.

Thus, we suggest that, although rare, saccular cysts can present atypically; as such, a high degree of suspicion should remain when the typical manifestations (voice, larynx, computed tomography) of a saccular cyst accompany this infraglottic finding.

It is important to note that despite the large size, multiloculation, and extension outside of the larynx, this lesion was able to be removed endoscopically. In the past, treatment recommendations included observation for small or asymptomatic lesions, endoscopic excision, marsupialization, and excision via an external approach. Larger cysts and those with a large external component have traditionally required an external approach due to limited access through the upper airway. However, this approach is more invasive with longer recovery and possible damage to superior laryngeal vessels.[3] Nonetheless, this case validates the experience of Hogikyan and Bastian, who reported a series of patients who had undergone definitive removal of large, recurrent, and combined internal/external components via an endoscopic approach.[4]

Author Contributions

Benjamin Wajsberg, substantial contribution to acquisition of data/literature, drafting the work, final approval, and agreement to be accountable; **Robert W. Bastian**, substantial contribution to design and conception of work, revising it critically for important intellectual content, final approval, and agreement to be accountable; **Rebecca C. Hoesli**, substantial contribution to acquisition of data/literature, revising it critically for important intellectual content, final approval, and agreement to be accountable.

Disclosures

Competing interests: None.

Sponsorships: None.

Funding source: None.

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