

CASE REPORT

Laryngeal cysts: a report of three cases with varying presentations

Klinik sunumları farklı üç olguda larenks kistleri

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Cysts in the larynx are not uncommon and assume importance due to their potential to compromise the airway. A series of three cases of laryngeal cysts is presented. Voice, swallowing, and breathing are the prime functions served by the upper aerodigestive tract, and the three cases presented here illustrate how each of these functions can be interfered with by the development of laryngeal cysts. Despite the presence of overlapping symptoms, there were only subtle symptoms at the onset such as globus sensation (case 1), worsening asthma (case 2), and vocal fatigue (case 3). This case series highlights the importance of understanding these subtle symptoms and the need for a thorough search for these benign but offending laryngeal cysts.

Key Words: Airway obstruction/etiology; cysts/classification/complications/surgery; laryngeal diseases/classification/complications/surgery.

Larenks kistleri sık görülürler ve hava yolunu tehlikeye sokabilme özellikle yönünden önem taşırlar. Konuşma, yutma ve solunum, üst aerodigestif sistem tarafından sağlanan temel fonksiyonlardandır. Bu yazıda, larenks kisti saptanan üç farklı olguda bu fonksiyonların ayrı ayrı nasıl etkilendiği sunuldu; bu olgularda çakışan bulgular da vardı. Başlangıç sunumları olarak tüm olgularda yanıtıcı bulgulara rastlandı; boğazda yabancı cisim duygusu (olgu 1), ağırlaşan astım tablosu (olgu 2) ve sese güç kaybı (olgu 3). Sunulan olgular aracılığıyla, başlangıç semptomlarının yanıtıcı nitelikleri vurgulandı; özellikleri açısından benign olan, ancak etkileri nedeniyle tanı ve tedavide sorunlara yol açabilen larenks kistlerine karşı daha uyanık olunması gerektiği gösterildi.

Anahtar Sözcükler: Havayolu tıkanıklığı/etyoloji; kist/sınıflandırma/komplikasyon/cerrahi; larenjeal hastalıklar/sınıflandırma/komplikasyon/cerrahi.

Laryngeal lesions, whether congenital or acquired, assume importance as they may present potentially life-threatening airway problems.^[1-3] Those that are acquired may be divided as inflammatory (acute and chronic, including infective forms due to viral, bacterial, fungal, or parasitic causes), allergic, neoplastic (benign or malignant), and lastly cysts. In this paper, three cases with laryngeal cysts are presented with emphasis on clinical presentation, diagnosis, and management.

CASE REPORTS

The following cases illustrate the diversity of presentation of laryngeal cysts, for which a high index of suspicion is needed to warrant an otorhinolaryngologic referral.

Case 1- A fifty-three-year-old woman was referred to the otolaryngology clinic with a history of subtle change in voice, dysphagia, and a constant foreign body sensation in the throat for a year. A

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change in vocal resonance was noted, suggesting a space-occupying lesion in the vocal tract. Flexible endoscopic examination revealed a large cyst in the left vallecula, extending down to the ipsilateral pyriform fossa across the pharyngo-epiglottic fold (Fig. 1). Microlaryngoscopy under general anesthesia was performed without any difficulty in intubation. The cyst was marsupialised and its contents were drained. The histologic diagnosis was epithelial cyst with a normal squamous epithelium. No recurrences were encountered during one-year follow-up.

Case 2- A forty-three-year-old woman presented to the Accident & Emergency department with a history of worsening asthma of one-year duration, which did not respond to treatment. She was a mother of five children and, being busy at home, she had difficulty in keeping her clinic appointments. She was found to be stridulous and an urgent ENT examination showed severe respiratory distress, with biphasic stridor. Pulmonary auscultation revealed transmitted sounds and wheeze. Only partial relief was obtained by bronchodilators. On flexible endoscopic examination, there was a large polypoid swelling covering the entire glottic chink and flopping up and down the level of vocal cords with expiration and inspiration. It seemed to arise from, or attached to, the right vocal cord. An emergency microlaryngoscopy under a general anesthetic was arranged. The patient was cautioned about

the possibility of difficult intubation and an emergency tracheotomy was performed after informed consent. The patient was successfully intubated using a smaller diameter endotracheal tube, with the size of the polypoid swelling being in mind. A polypoid mass arising from the superior surface of the right vocal cord was detected and excised (Fig. 2a, 2b). Excision of the cyst resulted in a dramatic relief of her symptoms. Histology revealed a thick-walled cyst lined with squamous epithelium, and with gelatinous contents. Six months after the operation she was asymptomatic and her asthma was well controlled.

Case 3- A thirty-five-year-old male lawyer had complaints of vocal fatigue that persisted for the past six months. He was more heavily engaged in his work as one of his colleagues was off with an illness. He noted that, at the end of each court session, he had a distinct foreign body sensation in the throat. Flexible endoscopic examination revealed a cyst involving the right aryepiglottic fold and the arytenoid region and bulging to the ipsilateral pyriform fossa. Microlaryngoscopy under a general anesthetic was performed. Difficult intubation encountered was managed with the use of a smaller size endotracheal tube and by tilting the patient's position to the right. Laser excision of the cyst was accomplished by a lateral approach. Histologic evaluation showed a cyst lined by oncocytic epithelium. No recurrences were detected during a nine-month follow-up.

DISCUSSION

The epithelial lining of the larynx is of a pseudostratified ciliated columnar (respiratory) type other than the vocal cords, which are lined with a stratified squamous epithelium. Cysts derived from the laryngeal epithelium account for 5% of benign laryngeal lesions,^[4,5] the most common of which are glottic cysts^[6] followed by those involving the laryngeal ventricle, epiglottis, valleculae, aryepiglottic folds in the supraglottis, pyriform fossae (hypopharyngeal), and the interarytenoid region (strictly glottic). DeSanto et al.^[7] classified laryngeal cysts as ductal and saccular. The pathogenesis of these lesions is debatable, but they are thought to arise from secretory epithelial elements within the submucosa. These may be either the result of obstruction of laryngeal gland openings - retention cysts, or deposition of laryngeal epithelium into the submucosa via a traumatic mechanism - inclusion cysts, or congenital epithelial rests (at the junction of the pharyngeal pouches); hence congenital, reten-

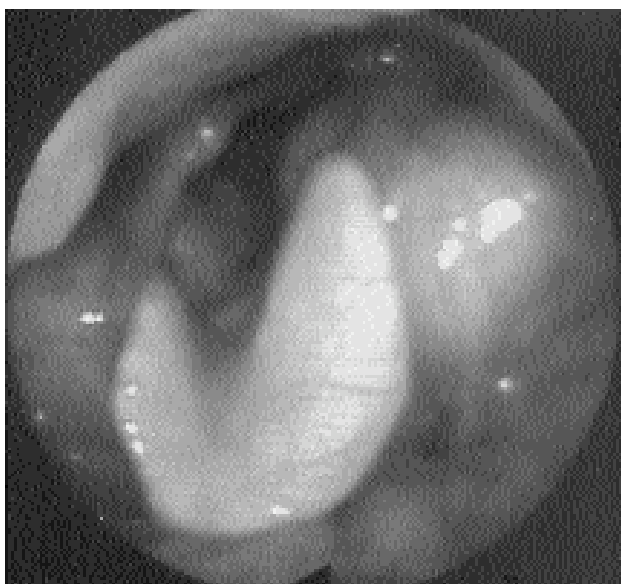


Fig. 1 - Endoscopic view of the cyst in the left vallecula, extending down to the ipsilateral pyriform fossa across the pharyngo-epiglottic fold (Case 1).

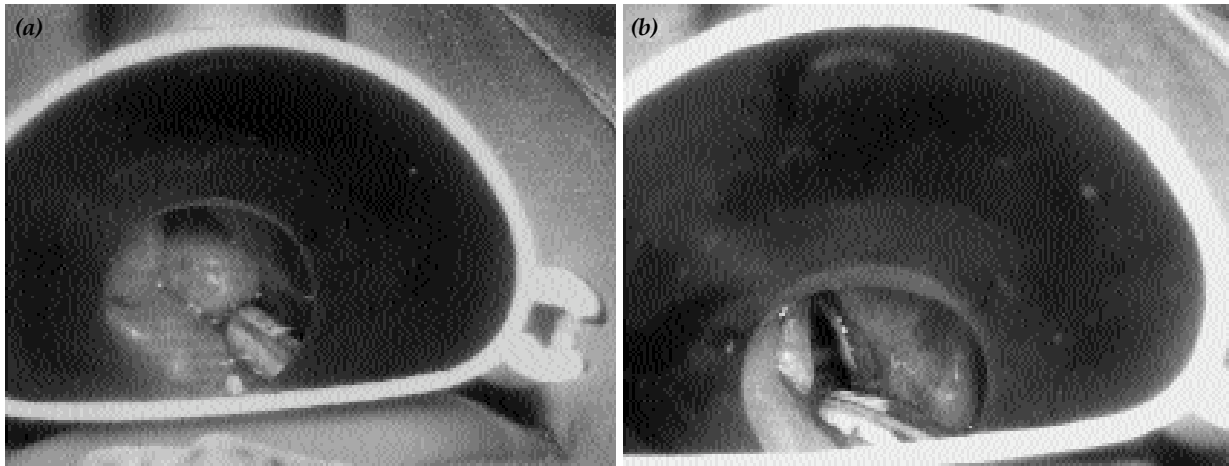


Fig. 2 - Endoscopic view of the cyst arising from the superior surface of the right vocal cord. (a) Before and (b) after excision (Case 2).

tion, and inclusion cysts.^[6] They are also classified into epithelial, tonsillar, and oncocytic cysts depending on whether they are lined by squamous or respiratory epithelium, or less commonly oncocytic epithelium.^[8,9] The etiology of acquired simple laryngeal cysts remains unknown. The predisposing factors presumably are smoking, poor oral hygiene, exposure to chemicals, and aging. Why cysts occur only at particular sites and in certain individuals raises the possibility of genetic predisposition as well, but to date, no study has investigated this issue.

Epithelial cysts arise from the epiglottis or the laryngeal ventricle. Tonsillar cysts such as tonsillar crypts are lined by squamous epithelium and contain lymphoid follicles in the submucosa. They tend to represent cysts within the lymphoid tissue, which is variably distributed throughout the aerodigestive tract. They are commonly found in the valleculae, epiglottis, and pyriform sinuses. Oncocytes are oxyphilic cells and represent either a hyperplastic or metaplastic process, but not a neoplastic one. Oncocytic cysts usually affect older population and involve the laryngeal ventricles.

Congenital laryngeal cysts usually present as pediatric medical emergencies including stridor, feeding difficulties, respiratory embarrassment, cyanotic episodes, and failure to thrive.^[1,2] In contrast, most adult laryngeal cysts are clinically silent, leading to symptoms of airway compromise, foreign body sensation, obstruction to swallowing, and change in voice. In one of the cases presented it was mistaken for worsening of asthma. They may be incidentally detected or may present to the anesthetist as a case of

difficult intubation.^[10] The role of fibreoptic endoscopic intubation along with jaw lifting seems to be justified in such cases.^[11] A high index of clinical suspicion by the examining physician or surgeon is essential, although endoscopic evaluation should be the diagnostic investigation, whereby the characteristics of the laryngeal cyst can be defined and its effect on the airway evaluated. Photographic documentation is helpful for further follow-ups if a conservative approach is to be adopted. Ultrasonography is useful to delineate these lesions.^[12] Moreover, computed tomography and magnetic resonance scanning provide high-resolution images in great detail, but they are not in the scope of, and indications for, routine use. They may be considered if there is doubt concerning the diagnosis and if the cyst appears to be infected.^[13] Definitive management aims to encompass the entire cyst, though marsupialisation has been shown to be equally effective.^[2,4] Decompression of the cyst may be attempted by aspiration with a large-bore needle or a small incision if the cyst contents are very viscid. In some cases this may facilitate surgical excision, but is a prerequisite preoperatively before intubation for anesthesia.^[14] Airway management, nutrition- and voice-related issues may need attention prior to definitive management and should be dealt with correspondingly.

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