

A Large Epiglottic Cyst Complicated by Acute Airway Obstruction in an Adult Patient with History of Electronic Cigarette Use: A Case Report

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Introduction

Epiglottic cysts are rare, benign, tumors thought to occur from inflammation and obstruction of gland ducts with subsequent mucus retention and formation of cysts¹. Depending on size and location, these cysts are usually asymptomatic but can present with symptoms such as globus sensation, dysphagia, hoarseness, stridor, and can be a cause of impending airway obstruction². Here we present a case of a large epiglottic cyst causing acute airway obstruction in a patient with vaping history.

Case Report

A 44-year-old male with no significant medical history presents to the emergency department with complaints of a sensation of a lump on his throat that had been increasing in size for the past 2 weeks accompanied by odynophagia. He denied fever, chills, rhinorrhea, otalgia, dyspnea, or cough. Patient was a life-time cigarette smoker but had switched to vaping three years prior, reporting using marijuana via his electronic cigarette. On further questioning, he states that he had a similar episode eight years ago that was diagnosed as acute epiglottitis with complete resolution of symptoms after corticosteroids and antibiotics. Patient was afebrile on admission with HR of 66, saturating 97% on room air. Examination remarkable for an enlarged epiglottis at the base of tongue with no obvious exudates. Computed tomography of neck revealed an enlarged and edematous glottis measuring 31 x 26mm and almost obstructing airway. Laboratory studies were normal. Patient was started on IV corticosteroids and ampicillin/sulbactam. Despite treatment, patient started to develop difficulty talking that progressed into difficulty breathing with a very loud biphasic stridor and tachypnea. Due to a visibly distressed patient with impending airway obstruction, anesthesia/otolaryngologist team were called at bedside and, after unsuccessful endotracheal intubation with glidescope, patient had emergent tracheotomy with eventual excision of cyst. Biopsy revealed a simple retention epiglottic cyst with acute inflammation and negative throat cultures. Prior to discharge tracheostomy was removed and patient was discharged home with antibiotics.

Discussion

Laryngeal cysts are uncommon, composing 5% of all laryngeal lesions with epiglottic cysts being the most common form, which are usually asymptomatic cysts found incidentally during procedures^{3,4}. In contrast, large epiglottic cysts have a high risk of impending airways, particularly when associated with epiglottitis such as in this case, and airway management becomes the most important aspect of treatment with prompt intubation either via fiberoptic endo/nasotracheal or tracheostomy, and eventual removal of cyst⁵⁻⁶. This patient had a history of epiglottitis eight years prior and interestingly, epiglottitis recurrence is higher (12.5-17%) in patients with epiglottic cysts³ and, therefore, close follow up should be done in these population. Another noteworthy fact about

this case is his use of electronic cigarettes as a possible risk factor for the development of the cyst inflammation via heat and/or chemical injury.

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References

1. Keefe MA, Lam HCK, Abdullah VJ, Soo G. Epiglottic cyst. *Otolaryngology–Head and Neck Surgery*. 2000;122(2):311-311. doi:10.1016/s0194-5998(00)70264-6.
2. Sudhakar PJ, B KP. A Rare Case Of Large Epiglottic Cyst. *Journal of Evolution of Medical and Dental Sciences*. 2015;4(63):11080-11082. doi:10.14260/jemds/2015/1596.
3. Vourexakis Z. Epiglottic cysts in clinical practice. *Cleveland Clinic Journal of Medicine*. 2016;83(5):338-339. doi:10.3949/ccjm.83a.15059.
4. Chida Y, Inokuchi R, Kumada Y, Shinohara K. A giant epiglottic cyst. *Intensive Care Medicine*. 2016;42(9):1496-1497. doi:10.1007/s00134-016-4410-8.
5. Yoon T, Choi J, Lim S, Lee J. The incidence of epiglottic cysts in a cohort of adults with acute epiglottitis. *Clinical Otolaryngology*. 2010;35(1):18-24. doi:10.1111/j.1749-4486.2009.02069.x.
6. Borner U, Landis BN. Epiglottic cyst: rare, but potentially dangerous. *Thorax*. 2015;71(3):294-294. doi:10.1136/thoraxjnl-2015-207780.

Images (can't be sent with Abstract):

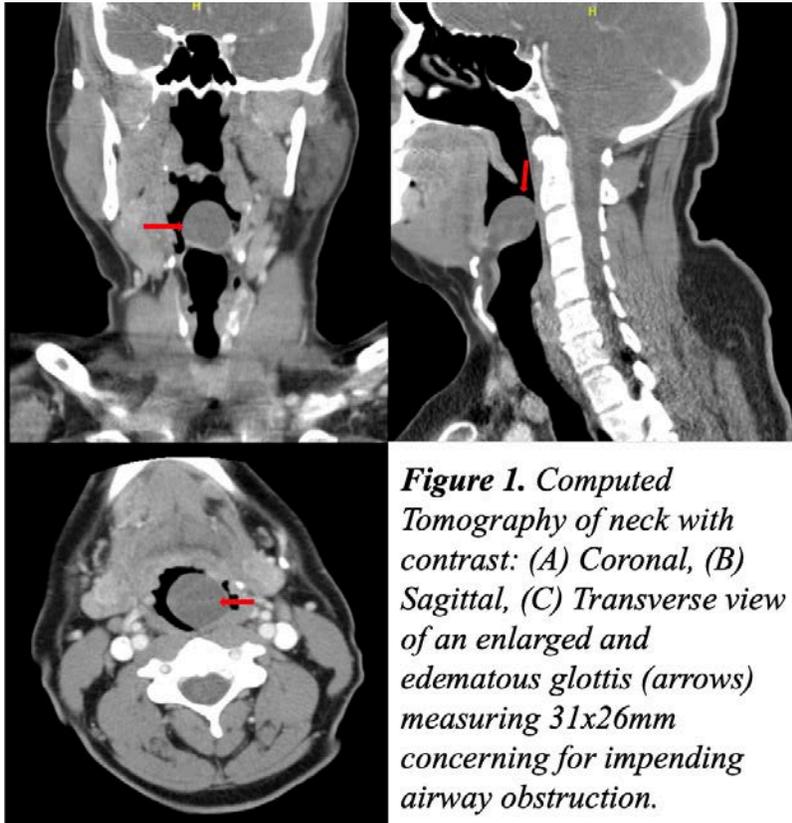


Figure 1. *Computed Tomography of neck with contrast: (A) Coronal, (B) Sagittal, (C) Transverse view of an enlarged and edematous glottis (arrows) measuring 31x26mm concerning for impending airway obstruction.*