

Unexpected Epiglottic Cyst in Trauma Patient with Difficult Intubation

Abdulwahid Alqahtani*, Saud Aldabaan, Khalid Alshehri

Otolaryngology Department, Aseer Central Hospital, Abha, Saudi Arabia.

ABSTRACT

Epiglottic cyst is a benign cyst with unknown etiology. It is a rare presentation in adults and may obscure view for airway intubation. We report a case of trauma with difficult intubation in a 52-year-old man with an epiglottic cyst, and detail the methods and strategies for successful endotracheal tube insertion. Following a review of the current literature, we also discuss airway management options in adult patients with epiglottic cysts.

Keywords: Epiglottic Cyst, Endotracheal Tube, Adults.

BACKGROUND

Epiglottic cyst is a benign cyst with unknown etiology. It is a rare presentation in adult and may obscure view for airway intubation. Prompt anticipation of difficult airway is important to reduce morbidity and mortality. We describe a case of epiglottic cyst with surgical option for airway access and discuss the surgical management option based on current literature review.^{1,2}

CASE PRESENTATION

A 52-year-old man referred from peripheral hospital as lifesaving RTA victim, he was brought with intubation with endo-tracheal tube (ETT) size 6. The patient had been admitted in ICU with poly-trauma on mechanical ventilation and sedation.

Physical examination revealed, GCS was 4/15, pupils were sluggish, left neck surgical emphysema, left clavicular and scapular fractures, diminished air entry on the left side of the chest and the chest tube had been inserted, the abdomen was extended with bruises, otherwise, no obvious facial and neck injuries or swelling were seen. He had no masses or distortion of the tongue. The Patient has neither a history of medical nor surgical illnesses. At the end of one of the duties, the senior asked to change the ETT because the size is small while the ventilation was running smoothly. After removing the ETT, another ETT with size 7.5 was inserted but it stacked in hypopharynx and could not be inserted, the on-call team tried many times but they failed to insert it again, the patient had hypoxia reached 50 over 25 minutes. During the trial of insertion, they called an expert intensivist who succeeded to insert it after struggling by glidoscope. During the videoing of the intubation there was quite big lesion in the hypopharynx occupying the whole area.


*Correspondence to:

Abdulwahid Alqahtani,
Otolaryngology Department,
Aseer Central Hospital, Abha, Saudi Arabia.

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In the next day, CT neck was done and showed hypopharynx cyst without definitive origin so he was referred to otorhinolaryngologist for surgical intervention. The patient was booked for tracheotomy and surgical cyst removal. Intra-operatively the cyst was excised which was originated from the left epiglottic side. The cyst had been sent to histopathology that they proved the lesion is thickened wall cystic structure measuring 1.3 cm in diameter ductal vs. saccular. Postoperative period was uneventful and the patient was discharged after 2 weeks to IMCU then to home when he was improved totally. On follow up one week later, via endoscopic review, the wound was found to have healed completely and no recurrence noted.



Fig 1: Left epiglottic cyst in 52-years old man with lifesaving RTA victim.

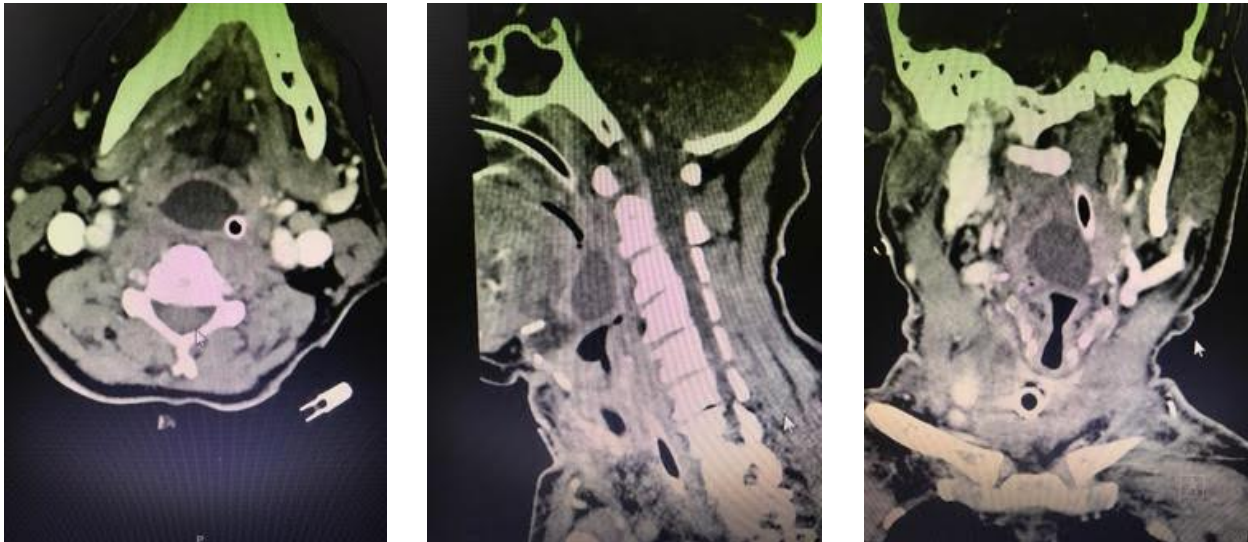


Fig 2 (A,B,C): A-Axial, B-Sagittal and C-coronal views of enhanced CT neck demonstrate left epiglottic simple cystic lesion obstructing the upper airway.

DISCUSSION

Epiglottic cyst is a rare benign lesion which commonly arises from the lingual surface of the epiglottic region. It is known as epiglottic mucous retention, or base of the tongue cyst, and is classified as a ductal cyst that results from obstruction and retention of mucus in collecting ducts of submucosal glands containing clear and non-infected fluid. This cyst is uncommon and its exact cause is unknown.³

Several theories explained its pathogenesis. However, two major hypotheses are that the cyst is a consequence of ductal obstruction or embryological malformation.⁴ The commonest site of epiglottic cyst is over the lingual surface of the epiglottis. Thus, the increased size of the epiglottic cyst may distort the epiglottis and fill the vallecular region as well as obstruct view of the airway.⁵ This may lead to blockage of the laryngeal inlet and risk of respiratory airway distress.^{4,6}

There were a few methods on management of epiglottic cyst. The conventional modalities include marsupialisation or excision, where they were done either with CO₂ laser or electrocautery using direct vision with or without micro-laryngoscope with a camera assembly or via snaring of the cyst using a set of tonsillectomy instruments.⁷⁻¹¹

Depending on the size of the epiglottic cyst; difficult airway is a possibility. In our case, we faced unexpected critical condition of airway obstruction with hypoxia, so if the patient cannot be intubated or ventilated by mask, then a "cannot intubate, cannot ventilate" (CICV) situation exists and immediate life-saving rescue maneuvers must be instituted. This was not the situation in our case; we promptly switched to a more experienced (intensivist) for intubation. The ASA Difficult Airway Algorithm lists laryngeal mask airway (LMA), esophageal-tracheal comb-tube and trans-tracheal jet ventilation (TTJV) as appropriate nonsurgical solutions for a CICV situation.^{12,13}

In the case of a (epiglottic) cyst, the first two options may fail to solve the problem because both provide supraglottic ventilatory mechanisms. Moreover, as these devices are inserted blindly into the airway, they might traumatize the cyst, causing its rupture or of its blood vessels, which would result in bleeding and aspiration. The solution, therefore, should be to advance the ventilatory

mechanism below the lesion by either TTJV or surgical airway. Although emergency tracheostomy was previously described in the management of an obstructing epiglottic cyst.^{12,14} All reported cases in which the cysts were discovered during anesthesia were managed by nonsurgical techniques (including needle aspiration).

CONCLUSION

In preparing a patient with (small sized ETT for endotracheal tube changing or history of airway difficulty), meticulous airway assessment and proper planning are mandatory as any difficult airway scenarios. Tracheostomy should be planned in advance if the epiglottic cyst obstructs visualization of the airway.

REFERENCES

1. Saim A. Vallecular Cyst: Airway Challenge and Options of Management. *Otolaryngology*. 2014;04(02).
2. Kothandan H, Ho V, Chan Y, Wong T. Difficult intubation in a patient with vallecular cyst. *Singapore Medical Journal*. 2013;54(3):e62-e65.
3. Joshi P, Sahoo S et al. An Unusual Presentation of Vallecular Cyst with near Fatal Respiratory Distress and Management Using Conventional Laparoscopic Instruments. *Journal of Surgical Technique and Case Report*. 2012;4(2):118.
4. Mohanty S, Maraignanam G. Endoscopic assisted therapeutic marsupialisation of vallecular cyst in a seven year old boy- A rarity in modern clinical practice. *Journal of Evolution of Medical and Dental sciences*. 2013;2(24):4320-4324.
5. Walshe C, Jonas N, Rohan D. Vallecular cyst causing a difficult intubation. *British Journal of Anaesthesia*. 2009;102(4):565.
6. Berger G, Averbuch E, Zilka K, Berger R, Ophir D, Saba K. Adult vallecular cyst: Thirteen-year experience. *Otolaryngology-Head and Neck Surgery*. 2008;138(3):321-327.
7. Rivo J, Matot I. Asymptomatic vallecular cyst: airway management considerations. *Journal of Clinical Anesthesia*. 2001;13(5):383-386.
8. Jahagirdar S, Ravishankar M, Karthikeyan P. Acute airway obstruction, an unusual presentation of vallecular cyst. *Indian Journal of Anaesthesia*. 2011;55(5):524.

9. Bhandary S. Innovative Surgical Technique in the Management of Vallecular Cyst. *Online J Health Allied Scs.*2003;2:2
10. Kothandan H, Ho V, Chan Y, Wong T. Difficult intubation in a patient with vallecular cyst. *Singapore Medical Journal.* 2013;54(3):e62-e65.
11. Singhal S, Verma H, Dass A, Punia R. Vallecular Cysts in Adult Population: Ten Year Experience. *Nepalese Journal of ENT Head and Neck Surgery.* 2014;3(2).
12. Yuce Y, Uzun S, Aypar U. Asymptomatic Vallecular Cyst: Case Report. *Brazilian Journal of Anesthesiology (English Edition).* 2013;63(5):419-421.
13. Practice Guidelines for Management of the Difficult Airway. *Anesthesiology.* 1993;78(3):597-602.
14. Henderson L, Denny J, Teichgraber J. Airway-Obstructing Epiglottic Cyst. *Annals of Otology, Rhinology & Laryngology.* 1985;94(5):473-476.

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