

Received: 02.10.2018

Accepted: 21.03.2019

Published: 31.07.2019

Norsyamira Aida Mohamad Umbaik<sup>1,2</sup>, Hashimah Ismail<sup>1</sup>, Irfan Mohamad<sup>2</sup>

## Vallecular cyst presenting as globus in a young adult

### Torbiel dołka nagłośniowego w postaci kulistej masy u młodej dorosłej osoby

<sup>1</sup> Department of Otorhinolaryngology – Head & Neck Surgery, Hospital Raja Perempuan Zainab II, 15586 Kota Bharu, Kelantan, Malaysia

<sup>2</sup> Department of Otorhinolaryngology – Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kota Bharu, Kelantan, Malaysia

Correspondence: Irfan Mohamad (MMed ORL-HNS), Department of Otorhinolaryngology – Head & Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia Health Campus, 16150 Kota Bharu, Kelantan, Malaysia, e-mail: irfankb@usm.my

#### Abstract

Vallecular cysts are ductal cysts that form when a mucous gland or a lingual tonsillar crypt becomes dilated due to the obstruction from inflammation, irritation or trauma. The peak incidences of vallecular cysts are bimodal; they are more frequent in children compared to the adult group. We report a case of a 22-year-old lady who presented with globus sensation for more than a year. Flexible nasopharyngolaryngoscopy revealed a huge cystic mass at the vallecula obscuring the visualisation of the laryngeal inlet. Patient successfully underwent endoscopic excision of the vallecular cyst with no intra- and postoperative complications.

**Keywords:** vallecular cyst, laryngeal cyst, endoscopic excision

#### Streszczenie

Torbiele dołka nagłośniowego są torbielami przewodowymi, które powstają, kiedy gruczoł śluzowy lub zachyłek migdałka językowego ulega poszerzeniu na skutek zczopowania spowodowanego zapaleniem, podrażnieniem lub urazem. Szczyt zapadalności ma charakter dwumodalny; występują one częściej u dzieci niż u dorosłych. W pracy opisano przypadek 22-letniej kobiety, która przez ponad rok miała wrażenie obecności kulistej masy. Nasofibrolaryngoskopia z użyciem elastycznego endoskopu ujawniła rozległą masę torbielowatą umiejscowioną w zagłębieniu dołka nagłośniowego, która przesłaniała wejście do krtani. Pacjentka pomyślnie przeszła endoskopowe wycięcie torbieli – nie odnotowano powikłań śród- ani pooperacyjnych.

**Słowa kluczowe:** torbiel dołka nagłośniowego, torbiel krtani, wycięcie endoskopowe

## INTRODUCTION

Laryngeal cysts are rare, comprising 5% of all benign laryngeal lesions<sup>(1)</sup>. It is estimated that 10.5% of laryngeal cysts occur in the vallecular space<sup>(1)</sup>. Laryngeal cysts are classified into ductal, saccular and thyroid cartilage foraminal cysts<sup>(2)</sup>, while another classification divides the cysts into congenital, retention, inclusion and lymphoepithelial cysts<sup>(3,4)</sup>. Vallecular cysts are formed when the duct of a mucous gland or a lingual tonsillar crypt becomes dilated due to the obstruction from inflammation, irritation or trauma<sup>(5)</sup>.

Clinically, there is a bimodal distribution in the age of presentation, thus suggesting two forms of vallecular cysts – in children and adult<sup>(6,7)</sup>. Amongst children, there is a higher prevalence in neonates and infants<sup>(8)</sup>. Vallecular cysts in adults are even rarer, with the peak incidence in the fifth decade, and occurring more frequently in men<sup>(8,9)</sup>. Vallecular cysts in adults are often asymptomatic and usually discovered during routine examination or elective intubation. Very rarely they produce troublesome symptoms.

## CASE REPORT

A 22-year-old lady with no medical illness presented with foreign body sensation in throat for more than a year. She was able to tolerate orally with no dysphagia. She also had no odynophagia or choking sensation. She was able to do daily activities with no shortness of breath, noisy breathing or hoarseness. Clinically, she was comfortable on air with no audible stridor or stertor, and no signs of respiratory distress. Intraoral examination was unremarkable. No neck masses were noted. Flexible nasopharyngolaryngoscopy was done in a clinic setting and a cystic mass was observed arising from the right side of the vallecula. The mass pushed the epiglottis backward, obscuring the visualization of the laryngeal inlet (Fig. 1). She was counselled for excision of the cyst and consented.

Intraoperatively, the airway was secured using a GlideScope oral intubation with microlaryngeal tube. Subsequently, a clear visualisation of the cyst was obtained using a direct laryngoscope. The thick cyst wall was uncapped using a laryngeal scissor which then released a thick yellowish jelly-like discharge (Fig. 2). The cyst wall was excised completely using cold instruments. Minimal bleeding was encountered which resolved after temporary packing with neuropathsies soaked with adrenaline. Intravenous Dexamethasone 4 mg was given intraoperatively followed by two doses postoperatively. The patient was transferred to the general ward post extubation and was discharged well on the next day. No recurrence was seen after a year of follow up.

## DISCUSSION

Vallecular cysts are usually asymptomatic but may also present with sudden onset of stridor, cough, dysphonia,



Fig. 1. The cyst pushed the epiglottis backward and obscured the laryngeal inlet

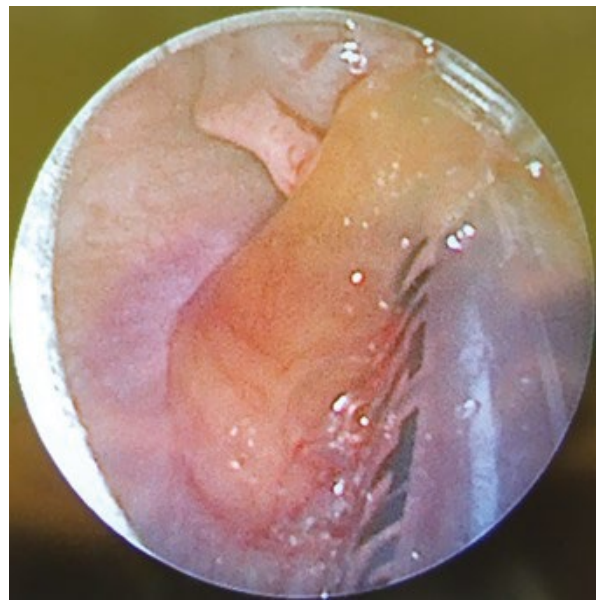


Fig. 2. The cyst released yellowish jelly discharge, which was thick and rich in mucus upon opening of the cyst wall

foreign body sensation, hoarseness, and dysphagia<sup>(5,6)</sup>. Our patient, a young lady, presented with globus or foreign body sensation in the throat. A routine clinic examination without direct examination of supralaryngeal structures with a laryngoscope may easily miss the diagnosis of a vallecular cyst. Although it is a rare entity, it is important to always rule out this benign and treatable cyst when a patient presents with a globus sensation even at a very young age. On the other hand, infection of the cyst may spread to the surrounding structures, causing oedema and inflammation, which may initiate an acute supraglottitis with or without abscess formation. A retrospective cohort study described that vallecular cysts were frequently associated with the

development of suppurative infection of the epiglottis<sup>(6)</sup>. This condition is potentially leading to a life-threatening upper airway obstruction, which need immediate airway management and close observation in critical care ward. Surgical removal is a treatment of choice in managing vallecular cyst. Open, endoscopic (needle aspiration, marsupialisation, and laser ablation using CO<sub>2</sub> laser or KTP laser), or combined procedures can be used for treatment<sup>(9,10)</sup>. An incision scar, increased anaesthesia time, a risk of superior laryngeal nerve injury, and long hospitalisation are the main disadvantages of open procedures. Limited exposure, difficulty in bleeding management, the need for adequate equipment, high costs, and the risk of thermal or airway injury are the principal disadvantages of endoscopic procedures<sup>(10)</sup>. We chose endoscopic excision as surgical treatment of choice for this patient based on a local expertise and resources available. No intra- or postoperative complication arose and the patient was successfully discharged the next day with no more globus sensation, and able to tolerate orally well.

The most important part of the surgery is to secure the airway as such a large vallecular cyst may cause an upper airway obstruction. For this case, the anaesthetic team decided on GlideScope oral intubation with a microlaryngeal tube. It is crucial to visualise the cyst during intubation to avoid rupture of the cyst with high risk of aspiration. Other alternative airway management plans are aspiration of the cyst content using syringe and large bore needle prior to the endotracheal intubation and also using the fibre optic nasal intubation. The aspiration of cyst content using syringe and large bore needle prior to intubation in vallecular cyst is widely applied and discussed in many literatures as one of the most important step prior to securing the airway especially in an unexpected finding during elective intubation<sup>(8)</sup>. This technique is frequently used in neonatal vallecular cyst as the small larynx is prone to get obstructed by the cyst and visualisation of the vocal cord is difficult during intubation.

### Conflict of interest

*The authors do not declare any financial or personal links with other persons or organisations that might adversely affect the content of the publication or claim any right to the publication.*

### References

1. Zalvan CH, Reilly E: Symptomatic vallecular cysts: diagnosis and management with the KTP laser. *Eur Arch Otorhinolaryngol* 2016; 273: 2111–2116.
2. DeSanto LW: Laryngocele, laryngeal mucocele, large saccules, and laryngeal saccular cysts: a developmental spectrum. *Laryngoscope* 1974; 84: 1291–1296.
3. Arens C, Glanz H, Kleinsasser O: Clinical and morphological aspects of laryngeal cysts. *Eur Arch Otorhinolaryngol* 1997; 254: 430–436.
4. Forte V, Fuoco G, James A: A new classification system for congenital laryngeal cysts. *Laryngoscope* 2004; 114: 1123–1137.
5. Kothandan H, Ho VK, Chan YM et al.: Difficult intubation in a patient with vallecular cyst. *Singapore Med J* 2013; 54: e62–e65.
6. Berger G, Averbuch E, Zilka K et al.: Adult vallecular cyst: thirteen-year experience. *Otolaryngol Head Neck Surg* 2008; 138: 321–327.
7. Lee DH, Yoon TM, Lee JK et al.: Clinical characteristics and surgical treatment outcomes of vallecular cysts in adults. *Acta Otolaryngol* 2015; 135: 1185–1188.
8. Romak JJ, Olsen SM, Koch CA et al.: Bilateral vallecular cysts as a cause of dysphagia: case report and literature review. *Int J Otolaryngol* 2010; 2010: 697583.
9. Yuce Y, Uzun S, Aypar U: Asymptomatic vallecular cyst: case report. *Braz J Anesthesiol* 2013; 63: 419–421.
10. Torun MT, Seçkin E, Tuncel Ü et al.: A rare entity: adult asymptomatic giant vallecular cyst. *Case Rep Otolaryngol* 2015; 2015: 723420.