

# Giant vallecular cyst: an impending threat for airway collapse

Surya Ravichandran , Puducherry Ravichandran Subhashini , Kalaiarasi Raja, Arun Alexander 

ENT, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India

## Correspondence to

Dr Puducherry Ravichandran Subhashini;  
prsubhashini90@gmail.com

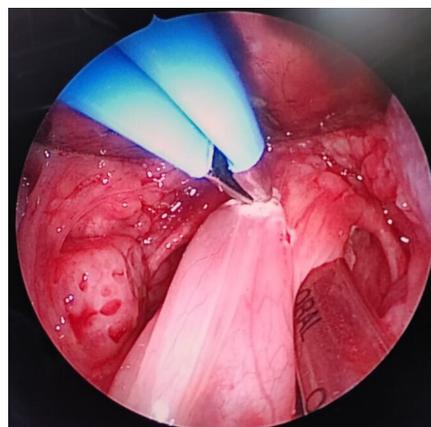
Accepted 6 June 2021

## DESCRIPTION

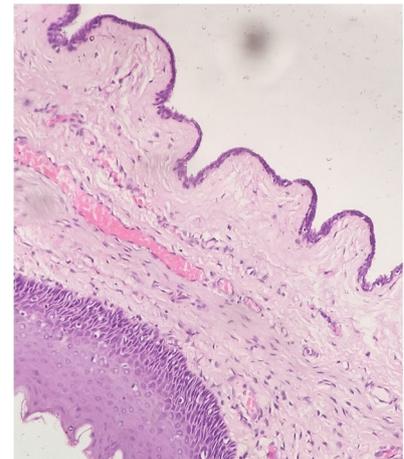
The vallecular cyst is formed due to an obstruction in the collecting duct of a submucosal gland, thereby causing the accumulation of mucus within it. It is also known as a ductal cyst, mucus-retention cyst. DeSanto *et al*<sup>1</sup> identified that these vallecular cysts are due to distended ducts and not distended glands as histopathologically, the cells of these cysts are typically squamous or respiratory epithelium and not of acinar cells. As it is a rare entity, the exact incidence is not known. Vallecular cysts can occur in any part of the oropharynx due to the presence of numerous mucus glands within the lining epithelium. In children, vallecular cysts are



**Figure 1** Picture showing vallecular cyst on mouth opening.



**Figure 2** Cauterisation of the attachment of the vallecular cyst after aspiration.



**Figure 3** Histopathological examination of the excised cyst showing outer lining of squamous epithelium.

most commonly found in the base of the tongue and vallecula.<sup>2</sup> Vallecular cysts are largely asymptomatic; however, they can cause upper airway obstruction, making the child present with stridor and respiratory distress if it grows large. Surgical excision is the mainstay treatment. Multiple intubation attempts are best avoided as there is a high risk of rupture of the cyst and aspiration of the cyst contents.<sup>3</sup> The transoral median glossotomy approach and transhyoid approach, which carry an increased risk of prolonged intubation, need for postoperative tracheotomy and rarely pharyngocutaneous fistula, have been primarily replaced by transoral excision procedures.<sup>4</sup>

Aspiration of the vallecular cyst to shrink its size followed by intubation has been recorded in the literature.<sup>5,6</sup> However, marsupialisation via coblation has been the treatment of choice for vallecular cyst.<sup>7</sup>

A 7-year-old girl was admitted as a case of difficulty in swallowing. On examination, a smooth cystic lesion was noted in the base of the tongue occupying the oropharyngeal isthmus (*figure 1*). Clinically, a diagnosis of the vallecular cyst was made. Difficulty in endotracheal intubation was anticipated. As the child was apprehensive for awake fiberoptic intubation, the child was preoxygenated for 3 min and induced with sevoflurane starting from 1%. Mask ventilation was initiated, and the child was on spontaneous breathing. When the child was under, at 3%, the cyst obstructed the glottis completely. The child started desaturating to <90% momentarily. Direct laryngoscopy with



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**To cite:** Ravichandran S, Subhashini PR, Raja K, *et al. BMJ Case Rep* 2021;**14**:e244666. doi:10.1136/bcr-2021-244666

## Images in...

Macintosh blade showed it would be impossible to intubate with the cyst unruptured. The cyst was held with a Magill's forceps, lifted and aspirated. Around 2 mL of clear fluid was aspirated from the cyst, following which it collapsed on itself. Once the cyst was aspirated, the airway opened, and with the child

breathing spontaneously, saturation improved to 100% quickly. Endotracheal intubation was successful. Under general anaesthesia, the vallecular cyst was examined using a 0° endoscope, and it was found to be arising from the lingual surface of the epiglottis. The base of the vallecular cyst attached to the lingual surface of the epiglottis was cauterised (figure 2), the sac was removed and sent for histopathological examination. The child was extubated uneventfully. Histopathological examination of the excised material confirmed our diagnosis of the vallecular cyst (figure 3).

### Patient's perspective

Our child reported difficulty in swallowing for a few months. We noticed the significant swelling in her mouth and were worried that it could be a grave condition. The doctors explained the benign nature of the disease; however, they warned us about the potential risk of causing breathing difficulty. After the surgery, our daughter recovered completely, and we are happy that our terrifying experience came to an end. We thank the doctors and the treating staff for their efforts and commitment to our daughter's treatment.

### Learning points

- ▶ Vallecular cysts are usually asymptomatic but can be present with respiratory distress and stridor.
- ▶ If found incidentally and hampering endotracheal intubation, transoral aspiration can be done to gain airway access.
- ▶ The tongue should have been pulled out, the nasopharyngeal airway should have been inserted and connected to the endotracheal tube adapter, and sevoflurane continued with 100% oxygen as the child was continuing spontaneous breathing, which could have prevented the airway collapse.
- ▶ Aspiration of the cyst must be followed by definitive management such as excision of the cyst as aspiration alone leads to a higher chance of re-accumulation of the fluid.

**Contributors** SR and SPR: data collection, manuscript preparation and review of literature. KR and AA: review and editing of the final manuscript.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Parental/guardian consent obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

### ORCID iDs

Surya Ravichandran <http://orcid.org/0000-0002-4579-9835>

Puducherry Ravichandran Subhashini <http://orcid.org/0000-0002-8904-7168>

Arun Alexander <http://orcid.org/0000-0003-1026-4678>

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