

Congenital Laryngeal Cyst : Rare Cause for Neonatal Stridor

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Abstract

A six day old neonate was brought with the stridor, feeding difficulty and respiratory distress. There was no improvement after conservative management. Laryngoscopy revealed laryngeal cyst in region of epiglottis. We describe a novel use of cystoscope for safe and effective management of laryngeal cyst in single stage.

Introduction

Congenital laryngeal cyst is a rare cause of neonatal respiratory obstruction causing stridor. Laryngeal cyst have varied mode of presentation and can be fatal (40%) if not diagnosed on time hence high degree of suspicion and early treatment is necessary. Here we present a case of neonatal laryngeal cyst which presented as stridor and feeding difficulty. In neonatal period airway has smaller diameter thus even the minor amount of space occupying lesion leads to severe respiratory compromise.

Case Report

A full term normally delivered child developed stridor on day 2 of life and was initially managed as a case of laryngomalacia. Patient was symptomatically better till day 6 of life when he developed feeding difficulty, weak cry and respiratory distress. Patient subsequently developed intermittent cyanosis associated with inspiratory stridor with mild in drawing of intercostals and sub costal spaces. Direct laryngoscopy was done in view of weak cry and stridor; it revealed presence of large laryngeal cyst obscuring the laryngeal inlet (Fig. 1). CT scan was done to know the extent of cyst and its location, this revealed presence of cystic mass in relation with

epiglottis (Fig. 2).

Patient was taken up for direct endoscopic aspiration of cyst under general anaesthesia for which 11 french cystoscope was used. The irrigation channel was used for ventilation after fitting an adapter and the second irrigation channel was attached to the vacuum suction. During ventilation the suction channel was closed and vice versa. The instrument channel was used to insert a long needle of 23 french which is commonly used for injecting deflux in subureteric space. The mucoid fluid which was leaking from the punctured site was suctioned to prevent the aspiration. Subsequently the cyst was cauterised and marsupialised with the bugbee electrode. After completing the procedure the vocal cords were clearly visible and mobile (Fig. 3). The neonate was extubated on table and did well in postoperative period.

Discussion

There are various causes of respiratory distress in neonates and laryngeal cysts are very uncommon, accounting for less than one per cent.¹ Incidence of laryngeal cyst is about 1.8/100,000 newborns. Most frequently, these cysts are located in the supraglottic region, 75% of them within the plica aryepiglottica.⁶

Aetiology of laryngeal cyst is not clear but most accepted theories are (a) retention cyst resulting from obstruction of mucous gland ducts (b) cysts are caused by cystic distension of appendix of larynx of the laryngeal ventricle.³ Cysts are classified by De Santo *et*

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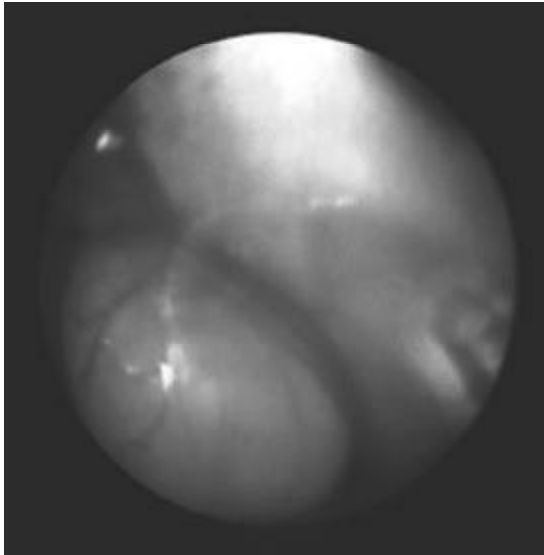


Fig. 1 : Large laryngeal cyst

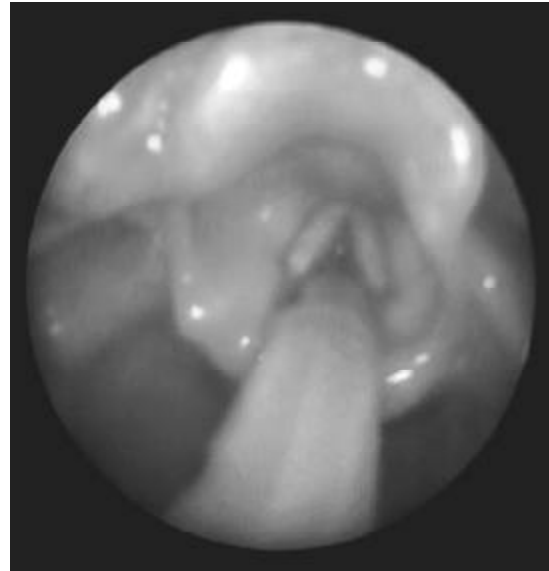


Fig. 3 : Clearly seen vocal cords

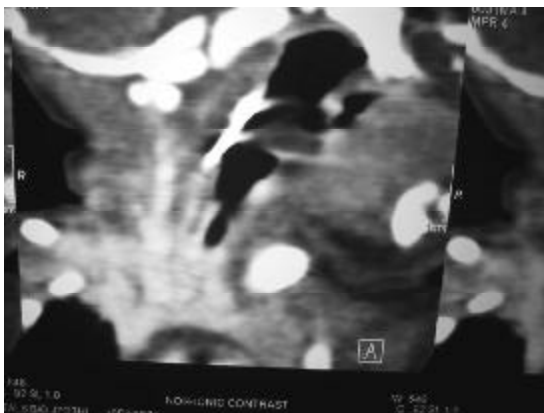


Fig. 2 : Cystic mass in relation to epiglottis

al into saccular cyst (24%) and mucus retention cyst (76%).² Mucus retention cyst can occur any where in the larynx and they are smaller and are less symptomatic than saccular cyst.

With improvement in foetal imaging modalities laryngeal cyst can be diagnosed antenatally in the second trimester⁸ which helps in planning the immediate perinatal management.⁴ The undiagnosed cases of laryngeal cyst are associated with high mortality (40%); thus underlying the

importance of antenatal diagnosis of these cysts.

Any neonate with respiratory distress, feeble cry and stridor should undergo direct laryngoscopy to rule out laryngeal cyst. In neonates there are many conditions which present with stridor- the commonest being laryngomalacia but the striking feature of the laryngeal cyst is respiratory distress, feeding difficulty, weak cry and stridor.

Soft tissue radiography and xeroradiography provide good evidence to diagnose laryngeal cyst³ but computed tomogram and magnetic resonance imaging provide far superior images for accurate diagnosis.

The laryngeal cyst needs high degree of suspicion. Direct laryngoscopy using a cystoscope as we have described is diagnostic as well as therapeutic tool. Use of conventional bronchoscope doesn't give option of working channel and aspiration simultaneously which is there in cystoscope. It has working channel for instrumentation and irrigation channel for suction and

ventilation. There are various treatment options available for laryngeal cyst such as aspiration, incision and drainage all of which provide temporary relief. Due to the high rate of recurrence (40%) definitive treatment is either endoscopic unroofing of the cyst or total excision of cyst.⁷ There are reports of using carbon dioxide laser⁵ for the marsupialisation of the cyst but the facility is not available widely. Our method makes single stage management of cyst possible with no possibility of recurrence.

References

1. Tucker JA, *et al.* Ann otol rhinol laryngol 1978;638.
2. Bailey, Biller. Surgery of larynx; First ed. WB Saunders 1985.
3. Gary D. Shakelford congenital laryngeal cyst 1976; 114 (2).
4. Aubry K. A case of laryngeal cyst antenatal diagnosis and peripartum management. *Int Journal Pediatric Otolaryngology* 2007; 71 (10) : 1639.
5. Mariën S. Congenital laryngeal cyst: a case report. *Acta Otorhinolaryngol Belg* 2003; 57 (2) : 119-21.
6. Borkó R, Szûcs S. Congenital laryngeal cysts HNO. 2000; 48 (11) : 843-5.
7. Pak MW, Woo JK, van Hasselt CA. Congenital laryngeal cysts: current approach to management. *J Laryngol Otol* 1996; 110 (9) : 854-6.
8. Fabrice Cuillier, Jacques Bidault M. Vallecular cyst 2001-12-4-15 www.TheFetus.net

GROWING HUMAN BLOOD IN A LABORATORY BRINGS HOPE

The technique seems to be an important first step towards producing an unlimited supply of disease – free blood.

Stimulated multiple human-stem-cell lines to differentiate and mature in vitro to form functional erythrocytes. They were able to grow blood types A,B,O, and both rhesus-positive and rhesus-negative.

The next steps will be to show that the stem-cell derived blood is safe and functional in animals and ultimately in human beings. Clearly there is a long way to go and the expenses will undoubtedly be substantial, much more than the cost of processing donated blood. But in many developing and transitional countries where an inadequate safe blood supply results in countless deaths.

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