

# Multiple Epidermal Inclusion Cysts of Epiglottis

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## ABSTRACT

Epiglottic cysts are benign laryngeal lesions. Though congenital cysts are often life-threatening, they are usually painless and symptomless in adults, or present with slight, though perceptible, interference with either swallowing or speaking or respiration. Early recognition and diagnosis by routine mirror laryngoscopy is advocated. Prompt removal or draining is the treatment. This is a case report of 42-year-old woman with complaints of feeling of something in throat, sleep apnoea and hoarseness, who on routine mirror laryngoscopy was found to have two large cysts arising from the free border of the epiglottis. The final histopathology reported the cysts as epidermal inclusion cysts.

## KEY WORDS

*Epidermal inclusion cyst, Epiglottic cysts, Mirror laryngoscopy*

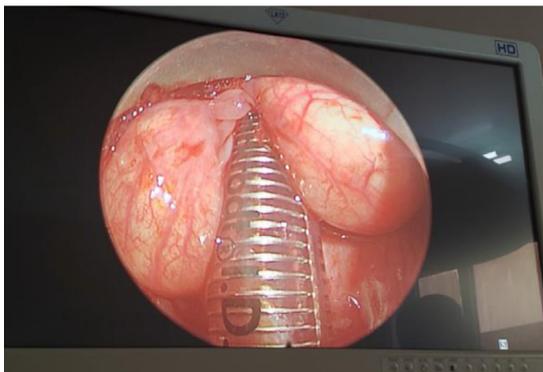
## INTRODUCTION

Laryngeal cysts constitute about 5% of benign laryngeal lesions.<sup>1</sup> Majority of these cysts originate from the epiglottis.<sup>2</sup> Epiglottic cyst is found at any age. Congenital lesions almost always cause neonatal respiratory distress or even sudden death.<sup>3</sup> Majority of cysts seen in adulthood are asymptomatic, or occur with mild symptoms such as lump in throat or voice changes. Treatment depends on size, anatomical location and degree of respiratory compromise. These lesions are usually de-roofed or excised under direct laryngoscopy and generally do not recur. DeSanto and associates offered pathologic classification of laryngeal cysts as ductal or saccular.<sup>4</sup>

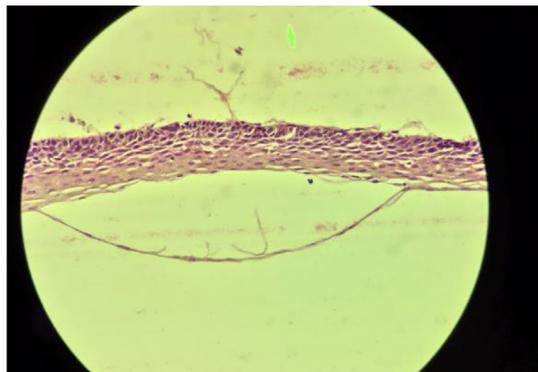
## CASE REPORT

A 42-year-old female presented to our Out-patient Department with complain of feeling of something stuck in throat and snoring during sleep with episodes of cessation of breathing during sleep for two years. She also complained of hoarseness for one year. She was taking anti-psychotic medications for the past 10 years.

Indirect laryngoscopy examination revealed two ovoid large cystic lesions with a pale yellow appearance arising likely from either side of the free edge of epiglottis; glottis itself could not be seen. Computed tomography (CT) scan of neck demonstrated two polypoidal lesions involving epiglottis with no enhancement. Lesion of 19x16.4 mm arising from right side of epiglottis was extending into right vallecula, median glossoepiglottic fold and abutting base of tongue anterolaterally. Similar lesion with calcifications was arising from left side of epiglottis which was abutting posterior wall of hypopharynx. Under awake fibre-optic guided nasotracheal intubation with general anaesthesia, laryngoscopy with endoscopic guidance was done (fig. 1). Smaller cyst (1x1 cm) on the left side was excised in toto. Larger cyst (2x2 cm) on the right side was marsupialized. These cysts contained highly viscous yellowish pasty substance. Symptoms were relieved after surgery, and she was discharged on 2<sup>nd</sup> postoperative day without any complications. Final histopathology revealed the cysts to be Epidermal Inclusion Cysts (fig. 2). The cysts had not recurred after a one-year follow-up.



**Figure 1.** Endoscopic view of two epiglottic cysts at direct laryngoscopy with an endotracheal tube in-situ



**Figure 2.** Cyst wall lined by Stratified squamous epithelium on histopathology

## DISCUSSION

The first laryngeal cyst was reported by Verneuil in 1852.<sup>5</sup> Laryngeal cysts are usually benign. Sites of predilection for laryngeal cysts in order of frequency are the epiglottis, commonly on its lingual surface, less commonly on the laryngeal surface; on the free edge of vocal cords; on the arytenoids and aryepiglottic fold; in pyriform fossa; in the ventricular band.<sup>2</sup> Epiglottic cysts are found at any age, although less frequent in children than in adults. They are most common in the 6<sup>th</sup> decade of life.<sup>6</sup> There is no sex predilection and the aetiology is also unknown.

These cysts are thought to arise from the obstruction of ducts of mucous glands with subsequent glandular dilatation. Laryngeal cysts may be classified as ductal and saccular.<sup>4</sup> Ductal cysts (76%) are commonly called mucous or retention cysts which are thought to originate from obstructed collecting ducts. They are usually lined by stratified squamous epithelium. Saccular cysts (24%) are submucosal and lined with ciliated columnar epithelium. Another classification system with clinical and pathogenic significance divides laryngeal cysts into epithelial, tonsillar and oncocytic cysts.<sup>7</sup> Epithelial cysts may or may not be associated with follicular lymphoid tissue, and are located in epiglottis and laryngeal ventricles. Tonsillar cysts are lined by squamous epithelium with underlying lymphoid follicles, and are located in vallecula, epiglottis, and pyriform fossa. Oncocytic cysts are lined by oxyphilic epithelium, and are located at the laryngeal ventricles. Histopathological findings in a case of epiglottic cyst was reported as Epidermoid cyst.<sup>8</sup>

Laryngeal cysts are all supra-cordal and fall into three groups with characteristic clinical features and complications.<sup>2</sup>

Epi-laryngeal (Epiglottic) Cyst arises from the lingual surface. It is the commonest variant. Often small and symptomless, they can at times be large enough to cause airway obstruction.

Intra-laryngeal (Epiglottic) Cyst arises from the laryngeal surface. It may be of unilocular or plunging variety. Unilocular variant is confined to the laryngeal surface of epiglottis and when large, reaches the free margin. Plunging

variant communicates through the thyro-hyoid membrane with an extension in the tissues of neck.

Juxta-laryngeal (Epiglottic) Cyst arises from aryepiglottic fold. It is the rarest type and is the variety found in newborns.

Presentation depends on age, size of cyst and extension into airway. Infants due to their smaller airways often present with stridor and dyspnea. Adults, on the other hand, often tend to be asymptomatic. Some may present with hoarseness, foreign body sensation, pain or dysphagia. These symptoms are so mild as to be overlooked by the patient, or if complained of, "piped down" by the medical attendant.<sup>2</sup> However, large cysts have been reported to cause airway obstruction in adults too.<sup>9</sup> Secondary infection of an epiglottic cyst may progress to epiglottitis or epiglottic abscess.<sup>10</sup> Unexpected intubation difficulty has been reported.<sup>1</sup>

Mirror laryngoscopy or fibroscopy aid in the diagnosis. Imaging studies like X-ray soft tissue neck-lateral view, computed tomography aid in assessment of size of lesion, determination of extent of lower airway involvement and planning the method of resection.

Treatment varies with size and location of the cyst. One patient ruptured a cyst with his finger after experiencing respiratory difficulty.<sup>11</sup> In cases presenting with severe airway compromise, tracheostomy may be required. However, aspiration of the contents to reduce the cyst size may help to avoid a tracheostomy, though adds the risk of pulmonary aspiration. Various modalities of treatment include excision, marsupialization, and deroofing.<sup>12,13</sup> Removal has been reported by a curved forceps under an indirect laryngoscope, by a tonsil snare, by tonsillotome, by microlaryngeal surgery under direct laryngoscope, by a side-opened direct laryngoscope and snare, and by carbon dioxide laser.<sup>2,8,9,10,14</sup> Airway obstructing cysts may require lateral pharyngotomy or laryngofissure for complete excision.<sup>13,15</sup> External approach is advocated for the excision of plunging intra-laryngeal cyst.

This case report describes the presence of two epiglottic cysts arising from the free edge of the epiglottis. Five cystic lesions of the epiglottis were reported at autopsy in a 66-year-old man.<sup>16</sup> A 54-year-old woman underwent removal of six Epidermoid cysts in the epiglottis.<sup>17</sup> A 50-year-old man with one cystic lesion on either side of the epiglottis underwent successful removal.<sup>18</sup> Presentation as feeling of something in throat (FOSIT) and obstructive

sleep apnoea (OSA) with typical indirect laryngoscopic examination in our case confirmed the diagnosis. Computed tomography helped to determine the size and extent of the lesions. Endoscopy assisted laryngoscopic removal on one side and marsupialization on the other side with adequate haemostasis was adequate treatment. Histopathology revealed the cysts to be epidermal inclusion cysts.

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