



## A CASE OF LARYNGEAL PAPILOMATOSIS

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**ABSTRACT** **Background:** Laryngeal papillomatosis is a benign tumor that grows in the larynx and sometimes in adjacent structures. Laryngeal papillomatosis in pediatric patients is a rare clinical entity with an unpredictable nature. Papilloma may be seen at any part of the larynx, but the most common locations are vocal folds, especially anterior commissure. In aggressive variety, they can obstruct the airway and lead to stridor. Tracheostomy is needed for obtaining patent airway, although, this is rare. The causative agent for laryngeal papillomatosis is human papilloma viruses (HPV 6 and HPV 11). The principal treatment of laryngeal papillomatosis is surgery, aiming to clear the airway and to enhance the voice quality. Here we present a case of laryngeal papilloma in a 12 year old child.

**KEYWORDS :** Laryngeal papillomatosis, Laser surgery, pediatric stridor

#### INTRODUCTION:

Laryngeal papillomatosis is a benign tumor that grows in the larynx and sometimes in adjacent structures<sup>[1][2]</sup>. Laryngeal papillomatosis in pediatric patients is a rare clinical entity with an unpredictable nature. These lesions have a predilection for obstructing the laryngeal airway<sup>[3]</sup>. Papilloma may be seen at any part of the larynx, but the most common locations are vocal folds, especially anterior commissure. In aggressive variety, tracheostomy is needed for obtaining patent airway although this is rare. The causative agent for laryngeal papillomatosis is human papilloma viruses (HPV 6 and HPV 11). The principal treatment of laryngeal papillomatosis is surgery, aiming to clear the airway and to enhance the voice quality.

The etiology of laryngeal papillomatosis is viral in origin and usually due to HPV, mostly types 6 and 11<sup>[4]</sup>. HPV is a deoxyribonucleic acid (DNA) virus included in Papillomaviridae family with a tendency of invading epithelial cells. Laryngeal papillomatosis is a rare lesion in the larynx with an unpredictable nature of disease<sup>[5]</sup>. Infants or young patients presenting with hoarseness of voice along with breathing difficulty or croup warrant laryngoscopic examination. Glottic and supraglottic regions of the larynx are commonly affected by papillomatosis. The progression of this disease is unpredictable. Death occurs in laryngeal papillomatosis due to laryngeal airway obstruction or complication occurring due to multiple surgical procedures in the larynx or progression of the disease to distal airway; leading to respiratory failure.

The diagnosis of laryngeal papillomatosis is usually carried out by direct laryngoscopy or fiber-optic nasopharyngolaryngoscopy. The appearance of the papilloma in the larynx looks like a polypoidal mass with a smooth surface and is confined to the larynx. Histopathological examination of the mass gives a definite diagnosis of laryngeal papillomatosis<sup>[6]</sup>.

The mainstay of treatment is surgical debulking, although no definite option for treating laryngeal papillomatosis is available. The aim of treating laryngeal papillomatosis is to excise the papillomas and restore the safe and patent airway with minimal injury to the vocal folds. Various methods for surgical debulking available are laser, coblator, microdebrider and cold steel method.

Adjuvant treatment can be classified into antiviral treatment and medications with antiproliferative or immunomodulatory properties. The development of newer vaccines against HPV gives potential to control the disease by preventing the frequency of sickness and transmission of infection. The immunization is frequently given in anticipation of cervical and anogenital malignancies and precancerous lesions due to HPV subtypes 6, 11, 16, and 18<sup>[7]</sup>.

#### METHODS:

A 12 year old female patient presented to ENT OPD, GGH with chief complaint of voice change since the age of 5 years. On examination, patient was fairly built with clear nose, oral cavity and pharynx, and no palpable lymph nodes over neck.

Patient had no history of vocal abuse or any associated or aggravating

features.

On telescopic examination, well defined mucosal growth was present at anterior 2/3rd of bilateral vocal cords.

After routine pre - anesthetic checkup, informed and written consent for the procedure along with tracheostomy was taken and patient was posted for Laryngeal surgery with laser ablation under GA, which went successfully. No residual disease was left intraoperatively. [FIGURE 1-Intraoperative finding]



**Figure 1-**Intraoperative finding



**Figure 2-** Post Operative Telescopic Finding

**RESULTS:**

Specimen was sent for histopathological examination, which came out positive for laryngeal papilloma. Post operatively, patient was advised voice rest for certain time, and then speech therapy.

On follow up examination at 3 months, 6 months and 12 months, patient's voice improved a lot with no hoarseness and on telescopic examination, bilateral vocal cords were normal and mobile.[FIGURE 2- Post operative telescopic finding]

**DISCUSSION:**

Laryngeal papillomatosis is a benign tumor which usually occur at the glottic region but can occur in subglottis, bronchus and trachea leading to stridor<sup>[8]</sup>. Early complaints is usually of hoarseness of voice and which grows progressively causing airway obstruction and therefore needs surgical intervention. Microlaryngeal laser surgery with CO2 laser has a lower risk of post surgical complications<sup>[9]</sup>. Risk of recurrence is high and therefore it is important to avoid any residual tissue intraoperatively. Strict follow up for three years is required to look for any recurrence.

Laryngeal papillomatosis is a viral disease, and the clinical behavior of this lesion in pediatric age is unpredictable<sup>[10]</sup>. The prognosis of this lesion is unpredictable due to its nature of recurrence. Nowadays, increasing immunization, better care during pregnancy, or judicious use of anti-infective agents may be useful for reducing laryngeal papillomas in clinical practice<sup>[11]</sup>.

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