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CASE REPORT

MULTIPLE LARYNGEAL PAPILLOMA IN AN ADULT

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ABSTRACT

Multiple laryngeal papilloma are common in children. Adult onset papilloma are usually solitary and mainly involve the glottis. Multiple laryngeal papilloma in an adult are rare and only few cases have been reported. A 29 yrs old male, presented with hoarseness of voice for 3 yrs. Laryngeal examination revealed, multiple papillomas in the left vocal cord. Micro laryngeal excision of the masses done and biopsy revealed to be squamous papilloma. Post-operative period went uneventful and no recurrence noted even after one year follow up and the patient is kept under follow up till date.

INTRODUCTION

Multiple laryngeal papilloma are characterized by the presence of multiple squamous papillomas in the larynx. It may affect any part of the respiratory tract, but larynx is the most common site. It is the most common benign neoplasm of larynx in paediatric age group and hence it is termed as Juvenile laryngeal papillomatosis.

Because of its recurrent nature, it is also referred as recurrent respiratory papillomatosis (RRP). Adult onset papilloma is usually solitary, mainly involves glottis and hoarseness is the most common symptom. Multiple laryngeal papilloma in an adult are rare and have the potential of malignant transformation. The treatment of choice is micro laryngeal excision or laser ablation. Follow up is necessary to know about the recurrences as well as malignant transformation.

Case Report

A 29 year old male, working as a driver presented to us with hoarseness of voice for 3 years. He was a smoker for 5 years; he did not have breathing difficulty or difficulty in swallowing or aspiration to liquids or did not have any history of trauma or voice abuse.

His blood parameters including thyroid function test found to be normal. On doing a videolaryngoscopy (Fig 1), multiple reddish polypoidal masses seen occupying almost half of the length of left vocal cord. Patient was further evaluated with CT scan of neck (Fig 2) and planned for Micro laryngeal excision of the lesion.

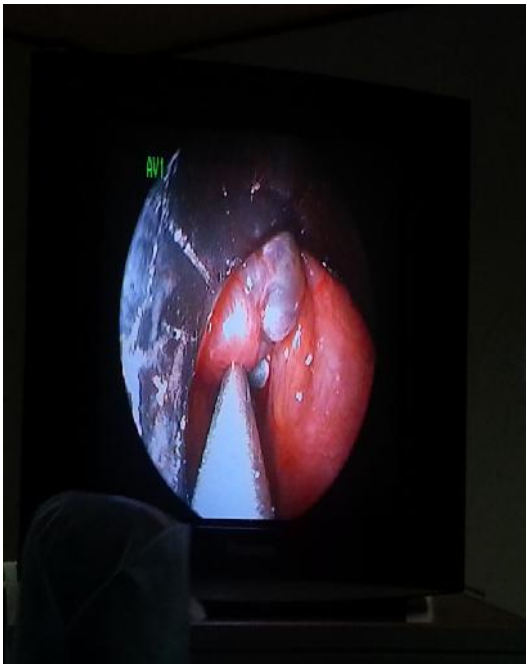

Fig 1

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Fig 2

Patient was intubated with 6 mm endotracheal tube, per orally, Kleinsasser Microlayngoscope fixed. Two polypoidal masses found to occupy the free edge of left vocal cord in its anterior aspect. On removal of the masses, three more masses found underneath the previous mass occupying the free edge of half the length of left vocal cord up to the anterior commissure. Masses removed in toto. Perfect haemostasis secured. After extubation patient was treated with antibiotics and steroids for 3 days. Biopsy revealed to be squamous papilloma. Post-operative period went uneventful. Patient is kept under follow up till date and no recurrence noted.

DISCUSSION

Human papilloma virus (HPV) infections can occur in any portion of aero- digestive tract, although it is most extensively described in larynx and trachea as recurrent respiratory papillomatosis (RRP). It was first described in late 1800s, by Sir Morell Mackenzie in lesions of larynx in children. In 1900s, after the advent of modern molecular genetics, HPV was confirmed as the causative agent of RRP (3). Of more than 100 serotypes, HPV 6 and 11 is most common in laryngeal papillomas. HPV type 11 commonly affects children (3). HPV may be transmitted during birth by aspiration of vaginal secretions of mothers with genital warts or the virus may be transmitted even before birth. HPV 6 affects people of different age group. Squamous papillomas may occur synchronously or metachronously in other parts of aero-digestive tract like nasal vestibules, lips, gum, soft palate, oropharynx, nasopharynx, hypopharynx, tracheobronchial tree and lung parenchyma but involvement of vocal cords is most common.

Recurrent respiratory papillomas is a benign disease, although it can have significant morbidity and rare mortality secondary to airway obstruction. There is less than 1% risk of malignant transformation. The course of RRP is variable with some patients experiencing spontaneous regression whereas others suffer from aggressive papilloma requiring multiple surgical procedures.HPV 11 is associated with more aggressive disease course requiring more surgical procedures for control.

Recurrent respiratory papillomatosis is categorized in to Juvenile onset (JORRP) and (AORPP) based on age of occurrence. In JORRP, disease has been observed in patients during immediate post- natal period and in patients as old as 84 yrs, but most common between 2 – 4 yrs with dysphonia being the most common presentation. (4,10) In AORRP, the peak incidence is between 20 and 40 yrs and common in males.(4) A study done in 1996 regarding the transmission of HPV, confirmed that disease may be passed by vertical transmission from mother to child. Children born to mothers with active condylomata had 231 fold increased risk of developing RRP than when compared to disease free mothers. Long lasting labours, first born child, prolonged II stage of labour, first born child, also explain the occurrence of JORRP(3). HPV could be recovered from the nasopharyngeal secretions of 30 % of infants exposed to HPV in birth canal. The factors such as patient's immunity, timing, volume and length of virus exposure, local trauma are also important in acquiring RRP(3). In some cases, development of disease has occurred in utero, which tells that caesarian section does not prevent the occurrence of disease. In children, because of much narrower diameter of the airway, the symptoms are more serious and require urgent treatment. Among patients with AORRP, it was found that they are more likely to have multiple sex partners and high incidence of oral sex. However, HPV has the capacity to form latent infections in basal layer in otherwise healthy appearing mucosa, which suggests that AORRP may represent a reactivation of HPV infection acquired during child birth, instead of denovo exposure in adulthood.

The Histopathological appearances are similar at all ages. The commonest site of occurrence is the vocal cord, usually the anterior half. Multiple papillomas, particularly in children may involve the supraglottis, pharynx and the soft palate. Squamous papillomas ranges from white to red and are delicate, granular, polypoidal structures varying from 1 – 10 mm in diameter, most being less than 5mm. In florid cases, the papillomas form a solid field of mucosal thickening without invasion deep to mucosa (6). Under magnification, small individual papillae can be discerned as blunt finger like processes. Microscopically, the papillary processes are seen as cylindrical projections with small offshoots of squamous cell covered epithelium covered cut in various planes. In minority of cases, there is keratosis, in which layers of completely keratinized anucleate cells are seen on the surface of papillae. Sometimes, cells of squamous epithelial covering of the papillae show atypical change, which is frequently related to koilocytosis. Epithelial atypia has been alleged to be associated with rapid recurrence of papillomas and increased risk of progression to carcinoma (6).

Most of the adult papillomas arise denovo in the adult life with an age incidence maximum in fourth decade. About 20% of adult papillomas can have a history of occurrence in childhood. Males are affected twice as often than females. If the papillomas form a solitary mass in larynx, there is a little

tendency to recurrence and a single endoscopic operation may be enough to treat. Two or more laryngeal lesions, separated by clinically normal epithelium may require many more endoscopic procedures. A third group, designated as florid papillomatosis, involving many regions of larynx, necessitates frequent removals, eventually tracheostomy and even laryngectomy.

Polymerase Chain Reaction (PCR) DNA amplification and in situ hybridization techniques like southern blot helps in detection of HPV types. But despite prolific scientific advancement, a cure and prevention are yet to be achieved (8, 9).

Maintenance of clear airway is all that essential through laryngeal microsurgery or laser treatment of the papillomas. Remission can occur at any age and at any time during the lifetime. The number of treatment may vary from patient to patient. Treatment with Interferon, Acyclovir, Cidofovir and 5FU has been tried in some cases. Many factors like trauma, smoking, alcohol, steroid immunosupression may act as trigger and influence reactivation. Patients may suffer from complications of disease and of treatment as well. Laryngeal scarring and laryngeal web may occur even after laser treatment. Tracheostomy with concomitant restricted lifestyle and decannulation problems, along with its seeding and distant spread may pose additional problem. Invasion of lung parenchyma is almost impossible to control, which may even lead to death (5).

CONCLUSION

Multiple papillomas in adult are rarely reported, and it requires regular frequent follow up in view of recurrence and malignant transformation. Tracheostomy, if possible is better to be avoided for fear of seeding and distant spread. Patients and their relatives should be explained about the disease, its nature, treatment, prognosis, recurrence and necessity for regular follow-up (7).

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