CASE REPORT

Glottic Papilloma in Pregnancy

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ABSTRACT

Respiratory papilloma (RP) is the most common benign neoplasm of the larynx, both in children and in adult. The etiology of recurrent respiratory papilloma is human papilloma virus (HPV), which has propensity to lay in normal epithelium, hence the high rate of recurrence. We report a case of an adult on-set large glottic papilloma seen in a female with 3rd trimester pregnancy, which was excised under microscope under local anesthesia. The effect of pregnancy and latest modalities of treatment are discussed in this article.

Keywords: Respiratory papilloma, Human papilloma virus, Pregnancy, Microlaryngeal surgery.

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INTRODUCTION

Respiratory papilloma (RP) is the most common benign neoplasm of the larynx, both in children and in adult.¹ The risk of respiratory distress is related to the size, location and shape of a glottic papilloma. Although resection of a glottic papilloma under local anesthesia is an effective and less invasive therapeutic option, the associated management of the airway is difficult. We are presenting here our rare experience of glottic papilloma in pregnancy with severe stridor.

CASE REPORT

Twenty eight years old pregnant female in 3rd trimester presented to our department with severe respiratory difficulty for 3 days (Fig. 1). She also had the history of change in voice from 6 weeks. Indirect laryngoscopic examination showed pinkish white pedunculated irregular mass attached to left vocal cord and filling glottic chink completely (Fig. 2). The laryngeal papilloma in adult, pleomorphic adenoma and schwannoma of glottis were kept as differential diagnosis. The patient was planned for micro laryngeal surgery but

patient collapsed in ward. The emergency tracheotomy was done. In view of future normal delivery and risk of general anesthesia in pregnancy the excision was done under local

Fig. 1: Patient with tracheostomy tube *in situ*

Fig. 2: Pinkish white mass filling the glottic chink completely

Fig. 3: Complete removal of mass

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Fig. 4: Histopathological features showing fibrovascular core lined by finger like projections of nonkeratinizing stratified squamous epithelium (hematoxylin eosin preparation)

anesthesia. The mass was removed completely (Fig. 3). The patient was decannulated on 3rd postoperative day. The abdominal ultrasonography showed no harm to fetus. The histopathological examination revealed core of fibrovascular tissue lined by finger like projections of non keratinizing stratified squamous epithelium suggestive of laryngeal papilloma (Fig. 4). The patient delivered healthy child and under regular follow-up with no recurrence.

DISCUSSION

The glottic papilloma is most common type of laryngeal papillomatosis. It affects individual of any age with bimodal age distribution with peak between 2 and 4 years and 20 to 40 years of age with male-to-female ratio 4:1. Human papilloma virus (HPV) types 6 and 11 cause benign papilloma in the airway.²⁻⁴ Clinically apparent HPV infection has been noted in 1.5 to 5% of pregnant women. Pregnancy is associated with accelerated papilloma growth with reactivation of latent disease possibly due to immune suppression.⁵ In adult-onset recurrent respiratory papillomatosis (AORRP), oroanal or orogenital contact is considered a possible mode of virus transmission. In adults, the patient presents with progressive hoarseness, stridor or respiratory distress. A low-pitched, coarse, fluttering voice and associated stridor suggests a glottic lesion. The most accurate way to diagnose laryngeal papillomatosis is for a biopsy to be conducted and for the lesion to be tested for HPV. Once transmitted to the airway, HPV establishes itself in the basal layer of the mucosa, where viral DNA enters the cell and produces ribonucleic acid (RNA) to produce viral proteins, similar to the replication mechanism of other viruses. Histopathological examination shows finger like projections of stratified squamous epithelium with vascularized stroma. Cold steel excision or microdebrider

surgery and carbon dioxide laser surgery are forms of treatment for laryngeal papillomatosis. Antiviral drugs like Cidofovir and interferon alpha and many other adjuvant therapies like Ribavirin, acyclovir, ranitidine, Indole-3-carbinol (I-3-C), mumps vaccine, retinoids, photodynamic therapy (PDT-DHE), photodynamic therapy (PDT-Foscan), Cox-2 inhibitors (celebrex) and gene therapy have been used to treat laryngeal papillomatosis, but none completely stops the tumors from growing. If the child or adult has only hoarseness, surgery can be scheduled as an elective procedure. If the child or adult has airway obstruction, patient has to be treated on an emergency basis. The aims of surgery are to reduce tumor burden, decrease spread, create safe and patent airway and improve voice quality. These tumors can recur frequently and may require repetitive surgery. Tracheotomy should be avoided as far as possible because tracheotomy is believed to induce spread of the papilloma down the trachea and into the bronchi and lungs.⁶ As reported by Derkay,⁷ approximately 14% of laryngeal papillomatous lesions require tracheotomy to avoid life-threatening airway obstruction.

CONCLUSION

The main aim of management of RP is to maintain the airway without a tracheostomy and to give the patient a reasonably good voice. Biopsy taken during surgery should be sent for histopathology to detect early dysplastic changes and for viral typing as virotype 16 and 18 are known to induce dysplasia. Pregnancy aggravates RP due to immune suppression. Local treatment of genital warts such as cryotherapy is advisable prior to vaginal delivery or cesarian section may be planned as an alternative way.

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