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Nasopharyngeal Hairy Polyp as a Rare Cause of Neonatal Respiratory Distress: A Case Report

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ABSTRACT

Hairy polyps are rare developmental malformations. They are benign lesions presented as a pedunculated mass that may arise from the naso-oropharyngeal region. Larger mass can cause upper respiratory obstruction causing respiratory distress or feeding difficulty, while smaller mass will present as intermittent respiratory distress due to a ball-valve type of obstruction. They are commonly seen in female, with ratio of 6:1 and majority of the cases occur in the infantile period. We are reporting a case of hairy polyp in a female infant that causing intermittent respiratory distress.

Key words: Hairy polyp, malformation, oropharynx, nasopharynx, respiratory distress

INTRODUCTION

Neonatal respiratory distress is commonly caused by general systemic illness. Uncommonly, upper airway obstruction due to bilateral choanal atresia and large adenoid tissue can contribute to the condition owing to the nature of neonates as an obligate nasal breather. Hairy polyp is a rare developmental malformation of bigerminal origin that comprises both ectodermal and mesodermal elements. It typically presents as a pear or sausage-shaped mass in the oropharynx or nasopharynx. Location in the head and neck is rare, mostly if origin is from the soft palate. The presentation depends on the location and the size of the lesions. The classical presentation is characterized by presence of a polypoidal mass, arising from oropharynx or nasopharynx, causing upper respiratory obstruction, stridor or feeding difficulties.

CASE SUMMARY

An 18-hour of life female baby was intubated following severe respiratory distress. She was born via a normal full–term spontaneous vaginal delivery after an uneventful pregnancy. Initially, she was treated as congenital sepsis; however blood investigations and chest X-ray did not suggestive of infection. In view of requiring only low setting ventilation, she was extubated. Unfortunately, she was reintubated after few hours due to respiratory distress. She was referred to our unit on day thirteen of live after noted, a firm pale tongue-like mass hanging posterior to the soft palate (Figure 1) during intubation. There were no other abnormalities found in the head and neck region. Magnetic resonance imaging (MRI) of the brain and neck showed presence of a well-defined lobulated midline pharyngeal lesion occupying most of the airway from nasopharynx extending to oropharynx, at the level of C3/C4. The lesion measures 0.8 cm (W) × 0.7 cm (AP) × 1.8 cm (CC) and show heterogenous hyper intensity signal on T1W1 and T2W1 and partially suppressed on Fat Suppression sequence suggestive of fat content.

She was taken to the theater for surgical intervention. The lesion was completely removed using bipolar diathermy transorally with endoscopic visualization under general anesthesia. She was extubated after 24 hours post operation and her respiratory distress were completely resolved after surgery. Review at two weeks post operation, she doing well without episode of respiratory distress or feeding difficulty. Macroscopic examination of the specimen showed a brownish mass covered by skin measuring 2.5 cm × 1.0 cm × 1.0 cm. Histologically, there was a polypoidal tissue covered by unremarkable keratinized stratified squamous epithelium with underlying skin adnexal including hair follicles and sebaceous glands (ectodermal in origin). Lobules of mature adipose tissue separated by thin fibrous capsule (mesodermal in origin) were also noted (Figure 2). Focal lymphoid aggregates were identified. There was no endodermal element identified. These findings confirmed the diagnosis of hairy polyp.

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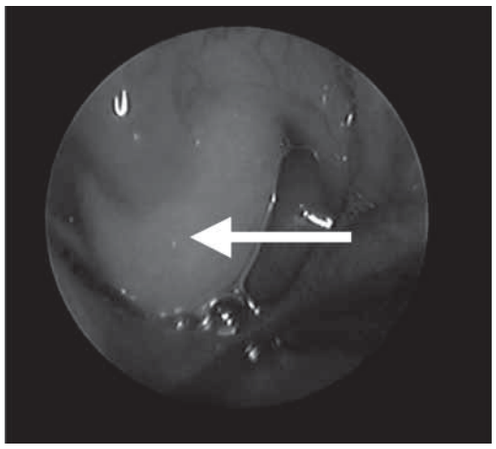

Figure 1. Endoscopic view of the hairy polyp (arrow) intraorally.

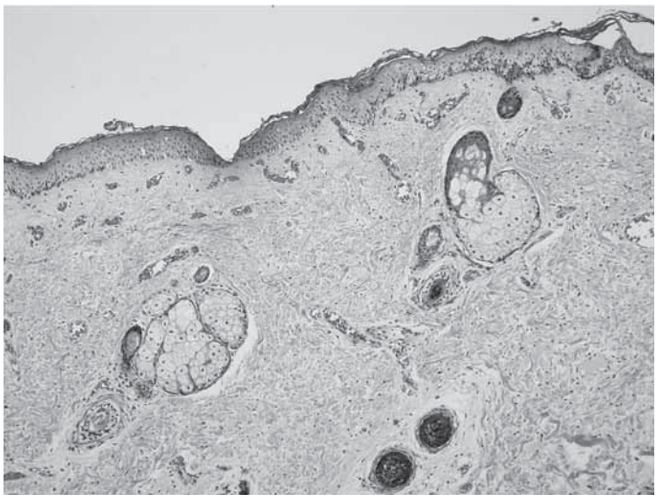

Figure 2. The polypoidal lesion is covered by keratinized stratified squamous epithelium with a few pilosebaceous units and hair follicles in a densely collagenized stroma.

DISCUSSION

Hairy polyp is a rare malformation of bigerminal origins that comprise of both ectodermal and mesodermal elements with an incidence of less than 1:40,000 live births. It was first described in 1784 by Ford, as quoted by Brown-Kelly[1]. They are most commonly seen in neonates. Female infants are six times more commonly affected than males[2]. Majority of hairy polyp arise in the nasopharynx or oropharynx, and it is the most common congenital tumour of the oropharynx and nasopharynx[3]. The most common site of occurrence is nasopharynx which arises from the lateral pharyngeal wall or superior aspect of the soft palate as seen in this case. Other possible sites are hard palate, middle ear, tongue or soft palate. Most of reported cases were at the left side[4]. Left sided predilection remains unexplained, as does the female predilection.

Hairy polyp can be associated with other congenital abnormalities such as cleft palate, agenesis of the uvula, external ear, ankyloglossia, facial hemihypertrophy, left carotid artery atresia and osteopetrosis[3]. In our case there were no any other associated anomalies. Hairy polyp is not associated with neither a particular congenital syndrome nor genetic abnormality.

Clinical presentations depend on the size and location of the mass. The classical presentation is, shortly after birth either intraoral finding of an asymptomatic sausage-shaped, pedunculated mass or with respiratory obstruction. Large pedunculated polyp may protrude through the mouth as a second tongue. Obstruction symptom can be dramatic, causing asphyxia at birth or can be subtle with intermittent obstruction from a small pedunculated polyp. They may also present with vomiting, feeding difficulties, hemoptysis, unilateral eusthacian tube dysfunction, snoring and unilateral nostril drainage.

Hairy polyp has been commonly described as teratoma[2], but they consist of two germinal layers; mesoderm and ectoderm. Microscopically, hairy polyp is composed of skin and adnexal structures overlying benign adipose tissue. Cartilage, muscle, nerve, lymph node, minor salivary gland, bones and meningothelial elements are occasionally found[4]. Teratoma is composed of all three germinal elements (ectodermal, endodermal and mesodermal) and has no sex predilection. Teratoma can undergo malignant transformation, but malignant transformation of hairy polyp has not been reported. Other differential diagnoses of a neonatal oropharynx and nasopharyngeal mass include dermoid, hamartoma, hemangioma, neuroblastoma, meningoencephalocele, rhabdomyosarcoma and craniopharyngioma. Radiological imaging may be useful in identifying the hairy polyp but unable to differentiate with dermoid and hamartoma, as they appear as fat within the mass.

The aim of management in hairy polyps is to control the airway. The first goal is to provide secured airway, often with intubation. Hairy polyp is usually cured by local excision and rarely recurred after surgery[1]. However, there are some difficulties in surgical approach and a possibility of postoperative complications. Excision can be challenging owing to the location. A transoral and nasoendoscopic surgical resection offer better outcome without any late complication as compared to blind resection[5]. The obstructive symptoms are usually resolved immediately after extubation. Cases of recurrence were hardly reported.

CONCLUSION

Although nasopharynx and oropharyngeal tumours causing threatening airway obstruction are rare in neonate, they must be considered in the differential diagnosis. Hairy polyp patients should be examined for concomitant congenital malformations. Surgical resection is the only management of choice. Histological examination is important for definite diagnosis, prognosis and follow up plan. The prognosis of the hairy polyp is excellent and there have been no recurrence or malignant transformation reported.

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