Hairy polyp of the nasopharynx, an unusual presentation, a case report and literature review

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We report a rare tumor of the nasopharynx with an unusual presentation in a 15-year-old female: the teratoid or hairy polyp. Hairy polyps are rare benign congenital tumors that present at birth or shortly after. Usually, they arise from the ectoderm and endoderm. Their presence in older individuals is unusual. Their clinical presentation depends on the site and size. Our patient presented late with nasal obstruction, snoring, and mouth breathing, and the clinical examination indicated a nasopharyngeal mass. The tumor was removed without complications and the histopathology was consistent with hairy polyp. In this short communication, we raised awareness of such a rarity of nasopharyngeal mass that has to be suspected in pediatric age group. A review of this unusual malformation will be included. We believe, after a computerized literature search, that this is the first report of its kind from the Arabian Peninsula.

Keywords:
congenital, dermoid, hairy polyps, nasopharynx

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Introduction

Hairy polyp is a rare benign tumor that could occur anywhere in the body, and it is especially rare in the pharynx, arising from the nasopharynx [1]. They have been reported in the oropharynx as well [2,3]. They are not true neoplasms, but a developmental anomaly of totipotential cells from two germinal layers: ectoderm and mesoderm. These embryonic cells proliferate abnormally and differentiate into disorganized various tissues [4]. Arnold originally classified it in 1870 [5]. The hairy polyp is generally present as a single mass at birth or soon after. Moreover, it is rare in older individuals. They are reported in neonates in the nasopharynx [6]. It has been reported as a pear-shaped or sausage-shaped, gray/white, pedunculated mass arising from the oronasopharynx, ranging from 0.5 to 6 cm in length [7]. Simple excision can cure this problem. Microscopically, hairy polyp is composed of keratinizing stratified squamous epithelium with normal skin appendages (hairs, sebaceous, and sweat glands) overlying a benign fibroadipose tissue, and may contain elements of cartilage and muscle. Previously, about 137 cases of nasopharyngeal hairy polyps have been reported in the literature [3,8].

There has been considerable debate and confusion in terms of the origin of these lesions; they are most commonly classified with teratoma or dermoid cysts. Gundrum proposed using the term 'choristoma', which means a mass of histologically normal tissue in an abnormal position [7]. Here, we report a case of a nasopharyngeal hairy polyp in a 15-year-old girl.

Case report

A 15-year-old Saudi girl presented to our clinic with a chief complaint of nasal obstruction of 3 years' duration. She had associated snoring and mouth breathing, but no apneic episodes. Initial examination indicated clearly the patient to be a mouth breather, with no associated signs of respiratory distress. A pale sausage-like protrusion was visible transorally behind the uvula on swallowing. Flexible fiberoptic nasopharyngolaryngoscopy showed a rounded pedunculated mass in the nasopharynx more to the left side. Computed tomography documented the presence of the mass (Fig. 1). Examination under general anesthesia showed a rounded mass (1.5×1.3 cm in diameter) arising from the lateral wall of the nasopharynx just above the upper pole of the left tonsil, with some hairs seen on the surface of the lesion (Fig. 2).

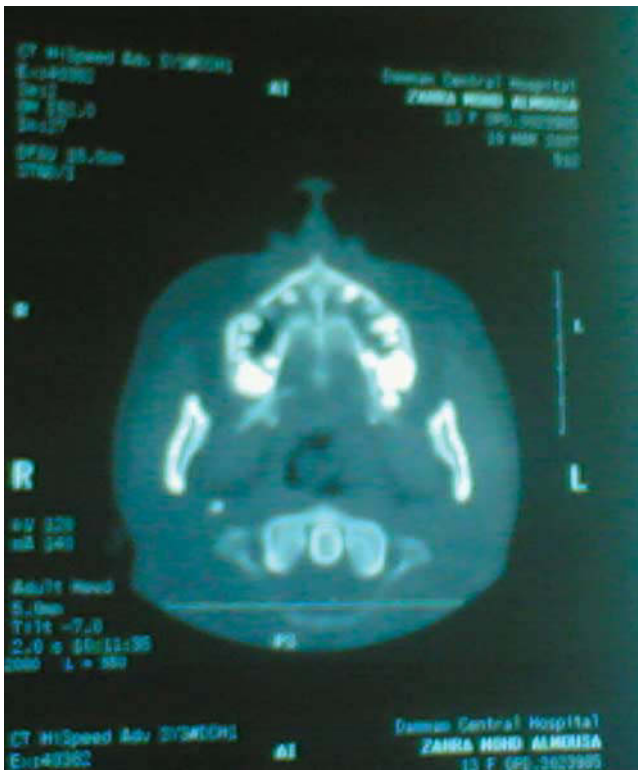
This swelling was excised in toto with bipolar diathermy. Blood loss was insignificant. Postoperative recovery was uneventful.

The swelling was 1.3×1.5 cm, rounded, with hair on the surface. The cut surface showed a yellowish center (Fig. 3). Microscopically, the lesion was polypoidal (Fig. 4), lined by skin with sebaceous glands and hair follicles, with a central core of adipose tissue.

Discussion

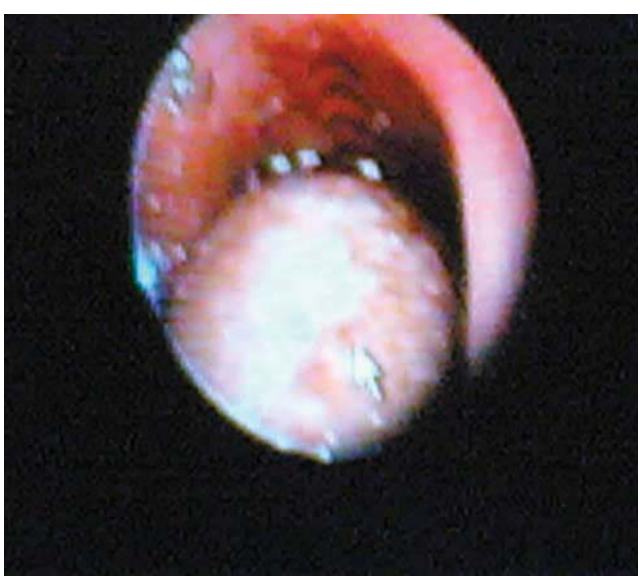
Arnold first described the hairy polyp in 1870 [5]. Congenital hairy polyp is a relatively uncommon developmental malformation that presents as a polypoid mass of the oropharynx or the nasopharynx that may closely mimic a mature teratoma [3]. It is infrequently associated with other congenital abnormalities [9]. It has no malignant potential, does not show progressive growth, and does not recur after excision. It often presents at birth or in the first year of life [9,10]. They are rarely reported in adults, the oldest patient reported to have this being a 71-year-old man [10,11]. Females are six times more commonly affected than males, with no

Figure 1



Computed tomography scan showing a pedunculated swelling seen through the oropharynx.

Figure 2

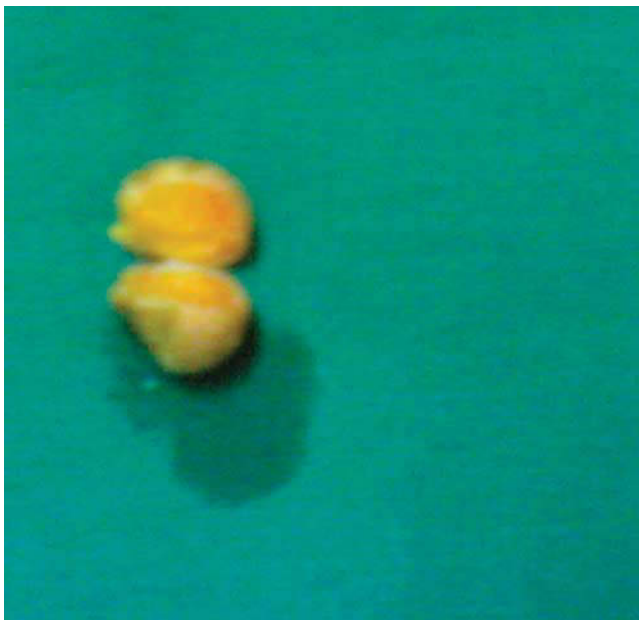


Enoscopic view of the nasopharyngeal swelling seen through the right nasal cavity.

evidence of familial inclination [12]. It is the most common congenital nasopharyngeal mass, with 137 cases reported [3,8].

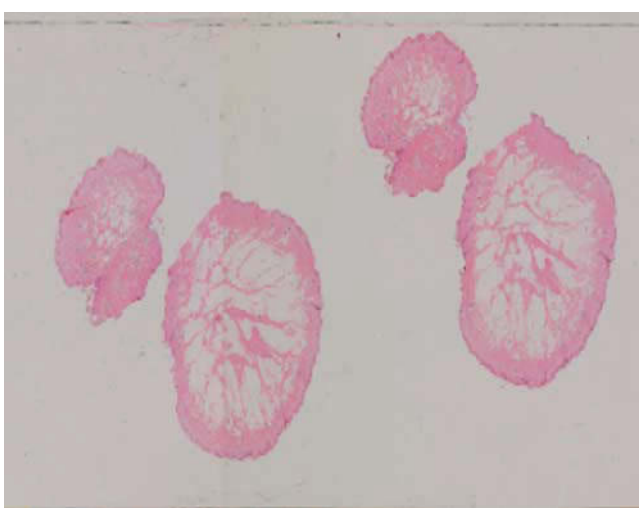
Hairy polyps most commonly arise from the nasopharynx, rarely from the oropharynx or the Eustachian tube alone. Usually, they present as a single mass, with three reported

Figure 3



The rounded mass cut surface with a yellowish center.

Figure 4



Slide stained with hematoxylin and eosin stain, 5 × 10 magnification, showing the polypoidal feature.

cases of bilateral masses [13]. It could be a pedunculated mass with the stalk attached to the oropharyngeal wall. Approximately 60% of the lesions originate from the lateral wall of the nasopharynx and the superior surface of the soft palate [3].

Patients with this lesion classically present at or shortly after birth with an asymptomatic sausage-shaped mass or varying degrees of respiratory or feeding problems depending on the location, size, and mobility of the mass. Respiratory obstruction in this case is characteristically intermittent, with stertor developing when the mass prolapses into the larynx, or feeding difficulties when it prolapses into the upper esophagus, resulting in

attacks of coughing or gagging [1]. Our patient presented late, at the age of 15 years, with nasal obstruction, snoring, and mouth breathing and fortunately with no respiratory difficulties.

The diagnosis can be made by physical examination and confirmed by histology of the mass. Microscopically, hairy polyp is composed of skin and adnexal structures overlying benign adipose tissue, as shown clearly in our case. Cartilage, muscle, nerves, lymph nodes, minor salivary glands, and bones are occasionally found [10,11]. Our case is consistent with the first part of the above report. Radiological examination plays an important role in localizing the origin of the mass, ruling out other differential diagnosis, as well as in ascertaining the connection to underlying bone or the presence of intracranial extension. Treatment is by surgical excision at the pedicle base; diathermy can be used. Only one case of recurrence has been reported after excision [14]. In our patient, using diathermy to the base, complete removal of the mass was achieved.

Pathologically, there is some controversy over the classification of hairy polyp. Teratomas are defined as a usual tumor composed of multiple heterotopic tissues foreign to the site in which they arise. In 1870, Arnold classified teratomatous lesions into four categories: dermoid, teratoids, true teratomas, and epiganthi [15]. Some authors use Arnold's classification of teratomas, thus classifying the hairy polyp as dermoid; some define it as a hamartoma whereas others consider it a choristoma [3,14]. Hamartomas are composed of tissue that is indigenous to the site. In Sexton's opinion, hairy polyps are choristomas, which are defined as foci of histologically normal tissue not usually found in this location (aberrant rests).

Multiple theories have been put forward to elucidate the histogenesis of hairy polyps. In 1918, Kelly proposed that hairy polyps are epiblastic in origin and represent pluripotential tissues that escape the normal control mechanisms before the fourth week of gestation, leading to the development of a disorganized mass [10]. In 1947, Eggston and Wolff theorized that these lesions arise from the segregation of epithelial and mesodermal embryonic germ layers during the midline fusion of palatine processes [11]. Badrawy and colleagues in 1973, suggested incomplete reabsorption of the bucconasal or buccopharyngeal membrane as a possible histogenesis [16]. In 1964, Schuring proposed that, because of their histologic resemblance to auricles, hairy polyps might be accessory auricles originating from the branchial apparatus [13].

Conclusion

Hairy polyp is a rare developmental anomaly that can occur in any part of the body, more commonly in the nasopharynx, and could arise from the oropharynx as well, causing respiratory and/or feeding difficulties. Usually, it manifests in the neonatal period or within the first year of life. The symptoms depend on the location and size of the lesion. There are increased reports of incidences of hairy polyps that can be mainly attributed to the advances in endoscopy and radiology. What makes our case peculiar is the delayed presentation of the mass and the symptoms (nasal obstruction, snoring, and mouth breathing), manifesting only in the last 3 years in our 15-year-old patient. The key for the diagnosis in this case was the clinical examination, especially the flexible nasopharyngolaryngoscopy. Our above report is an unusual presentation of a rare condition, and hopefully, we have raised awareness of such rarities.

Acknowledgements

Conflicts of interest

There are no conflicts of interest.

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