



# Oropharyngeal Hairy Polyp Causing Dysphagia

## Case Report

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## Abstract

Hairy polyp is a rare, benign tumor that comprises ectodermal and mesodermal germ layers. The embryogenesis of hairy polyp is precisely unknown, and concurrently, it has a female predominance. Although hairy polyp is observed in every part of the body; it is frequently located in the nasopharynx and oropharynx. Respiratory distress and feeding difficulties are the most related symptoms. Differential diagnoses comprise hemangioma, teratoma,

epidermoid cyst, neuroblastoma, and meningocele. In this report, a seven-year-old patient who was admitted to our clinic with swallowing difficulty because of an oropharyngeal hairy polyp was described.

**Keywords:** Dermoid cyst, hairy polyp, nasopharynx, oropharynx

## Introduction

Dermoid cysts are teratomatous lesions that are benign and rare. Hairy polyps are a dermoid type of cyst defined in 1918 by Kelly Brown (1). It is seen 6 times more often in women than men (2, 3). It generally settles in the orbita, nasal dorsum, mouth floor, infratemporal fossa, nasopharynx, oropharynx, and anterior and lateral part of the neck (3). It can also arise from the eustachian tube (4). While 1-7% of the dermoid cysts are seen in the head and neck, 23% of them are located at the base of the mouth. Dermoid cysts consist of embryonic germ layers such as teratomas. Teratomas contain all three germ layers (ectoderm, mesoderm, and endoderm). Dermoid cysts arise from the mesoderm and ectoderm only. The dermoid cyst is distinguished from the epidermoid cyst by mesodermal elements such as hair follicles and sweat glands (5). While both dermoid cysts and hairy polyps contain ectodermal and mesodermal germ layers, dermoid cysts contain ectodermal inclusion cysts that are different from the hairy polyp.

Here we present the case of hairy polyp causing difficulty in swallowing in a 7-year-old patient. In light of the current report, we emphasize that these rare tumors should also be considered in the differential diagnosis of patients with swallowing difficulty.

## Case Report

A 7-year-old girl applied to our clinic with the complaint of a feeling of obstruction in the throat

nearly for a year while swallowing. In the physical examination of the patient, a stalked polypoid mass extending from the supra tonsillar fossa to the hypopharynx and having a smooth surface was observed (Figure 1). In contrast-enhanced computed tomography, an approximately  $2.5 \times 1$  cm mass was observed in the oral cavity, not extending into the nasopharynx, and having cystic and sporadic areas appearing as fat density. Operation was primarily planned considering the dermoid cyst. The mass arising from the left supra tonsillar region and extending into the hypopharynx was completely excised with the help of electrocautery under general anesthesia (Figure 2). In the histopathological examination, adipose tissue (Figure 3) under keratinized stratified squamous epithelium, striated muscle fragments (Figure 4), sebaceous glands (Figure 5), and salivary gland samples (Figure 6) were observed. There were no ectodermal inclusion cysts. The histopathological examination revealed the presence of hairy polyp. No recurrence was observed during the one-year clinical follow-up of the patient. She did not have any additional problems in the postoperative period.

A written informed consent was obtained from the relatives of the patient to use the photos and report the case as an article for academic purposes.

## Discussion

Hairy polyps are developmental malformations (1). Histologically, they often manifest themselves



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Figure 1. Intraoperative image of the hairy polyps



Figure 2. Pink polypoid lesion covered with mucosa

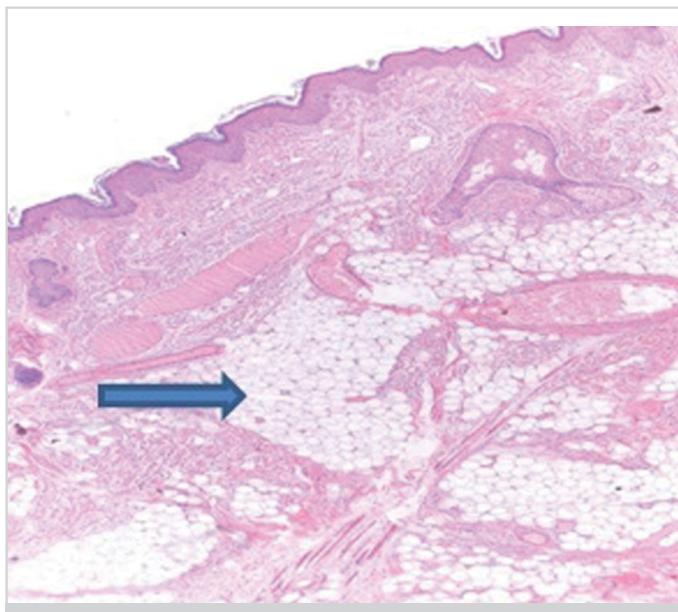
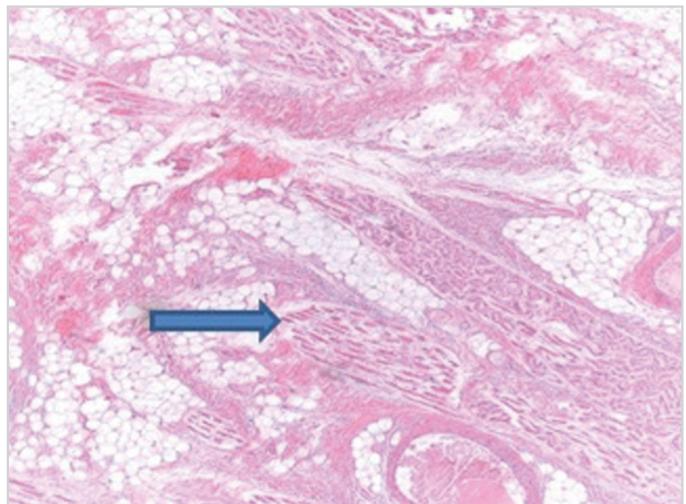


Figure 3. The arrow shows the adipose tissue under keratinized stratified squamous epithelium

as structures similar to a dermoid cyst. Considering that only 1-7% of all dermoid tumors are seen in the neck and head regions and not all of them are hairy polyps, hairy polyps seen in the head and neck region are understood to be very rare tumors (6). Hairy polyps are benign tumoral lesions that are more commonly seen in early childhood and embryonically contain both

Figure 4. The arrow shows the striated muscle fragments (hematoxylin-eosin,  $\times 100$ )

mesodermal and ectodermal originated structures. Its etiology is not fully known. There are three theories attempting to explain the etiology. According to the theory of residual totipotent cells, they are formed by the totipotent cells arising from the ectoderm and mesoderm germinal layers. According to the theory of congenital inclusion, they are formed because of the trapping of epithelial debris among the germinal layers that do not close in embryological life. According to the theory of developmental implantation, the inclusion of germinal elements into deep tissues is caused secondary to traumatic events. Although hairy polyps are also structures that belong to the ectodermal and mesodermal germ layers such as dermoid cysts, epidermal inclusion cysts are not in the mesodermal layers seen in dermoid cysts (6). They are benign tumors such as teratoma, hemangioma, nasal glioma, meningocele, encephalocele, meningoencephalocele, and thyroglossal cysts that may be confused with other pathologies that cause upper airway obstruction (2). As the treatment approaches of this pathology are different, care should be taken in obtaining differential diagnosis.

Hairy polyp symptoms vary according to the size and location of the lesion. These symptoms are difficulty in swallowing, rhinorrhea, snoring, and sleep apnea in the infantile period (2, 7). When the hairy polyps arise from the eustachian tube, it may cause recurrent purulent otitis media affecting middle ear ventilation (4). It was seen among the cases reported in the last 25 years that hairy polyps arose most frequently from the lateral nasopharyngeal wall (29.5%) and the rate of those arising from tonsils and tonsillar plicae was 17.9%. While the most common cause of admission to the hospital was respiratory distress among those same patients (50%), dysphagia was second (24.6%) (8). In our case, the hairy polyp also arose from the left supratonsillar region and the patient had the complaint of dysphagia. Although there are publications regarding family inheritance of hairy polyps (3, 9), there was no family history in our case.

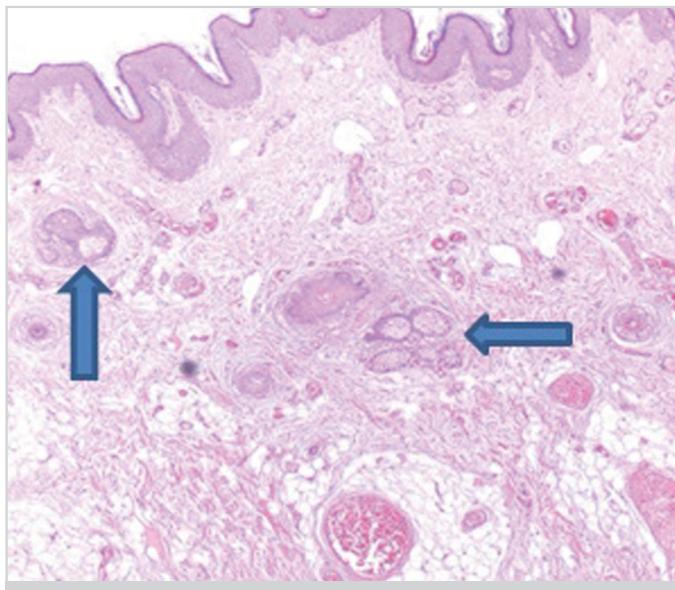


Figure 5. The horizontal and vertical arrows indicate the sebaceous glands (hematoxylin-eosin,  $\times 100$ )

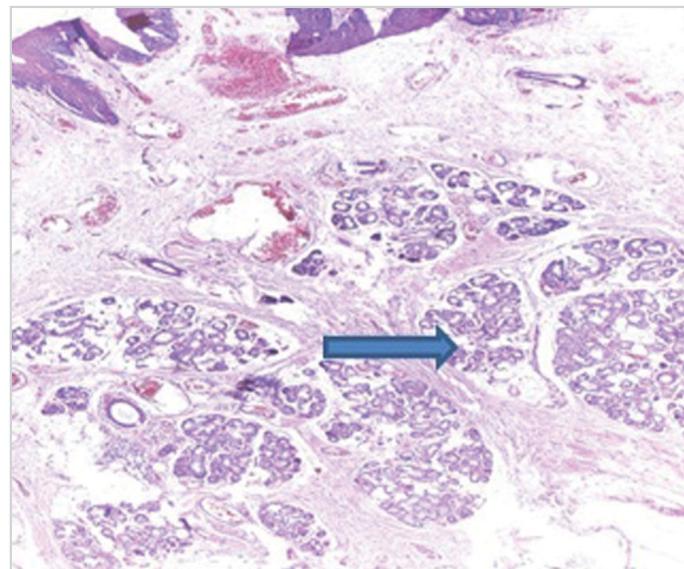


Figure 6. The arrow shows the salivary gland samples (hematoxylin-eosin,  $\times 100$ )

Radiological assessment is important for the determination of both the place of origin and the lesion borders in surgical planning. Computed tomography is a useful diagnostic method in the evaluation of the mass, the changes in the adjacent bone tissue, and magnetic resonance imaging for identifying the characteristics of the mass and its relationship with the adjacent vascular and muscular structures. Hairy polyps characteristically appear as a lesion that shows no intracranial spread and generally contains a fat tissue and fibrous stalk in the imaging techniques (10). The absence of intracranial spread is important for the differential diagnosis of meningocele and encephalocele (6). In our case, the cyst without intracranial spread and with lesions sporadically having fat density was compatible with hairy polyps in the computed tomography.

The diagnosis of hairy polyps was made through histopathologic examination. The differential diagnosis from hamartomas, teratomas, and dermoid cysts should be pathologically made. Hamartomas represent the overdevelopment of the cells or tissues of the organ where they develop; the cell types are the same as the organ in which they develop. Teratomas have the cellular elements of all three germinal layers; the dermoid cysts and hairy polyps have the cellular elements of the two germinal layers (mesodermal and ectodermal). Ectodermal inclusion cysts in the mesoderm that are found in dermoid cysts are not found in hairy polyps (2, 6). The hair follicles, sweat glands, and sebaceous glands that are mesodermal structures are important for the differential diagnosis (6). Because adipose tissue and sebaceous glands were seen under the squamous epithelium, and there were no ectodermal inclusion cysts, the diagnosis of hairy polyp was made.

The treatment of hairy polyps is surgery. Local excision is adequate and the risk of recurrence is low. However, the location

could pose a risk to surgery. A broad-based lesion in the oral cavity or in the nasopharynx may complicate the total excision. Furthermore, its close location to the eustachian tube, in the postoperative period, can cause eustachian dysfunction due to eustachian tube damage during surgery. Transoral and endoscopic combined approaches may be required (2). In our case as well, the tumoral lesion was fully removed transorally and recurrence was not observed during the one-year follow-up.

## Conclusion

Although it is rarely seen, hairy polyps arising from oropharynx should be kept in mind, particularly in the pediatric age group, for differential diagnosis of dysphagia and airway obstruction symptoms and findings.

**Informed Consent:** Written informed consent was obtained from the parents of patient who participated in this study.

**Peer-review:** Externally peer-reviewed.

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