Exophytic Schneiderian Papilloma in a Pediatric Patient: A Rare Case Report

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Abstract

We report a rare cause of nasal polyposis in an 11-year-old male who presented for evaluation of snoring and was diagnosed with severe obstructive sleep apnea. During tonsillectomy, indirect nasopharyngoscopy revealed an unexpected mass. Subsequent computed tomography of the sinuses identified a homogenous soft tissue mass within the right inferior posterior nasal cavity, encompassing the posterior aspect of the inferior nasal turbinate. Differential diagnosis included nasal polyps, lymphoma, and hemangiomata. The patient underwent endoscopic removal of the nasal/nasopharyngeal mass and adenoidectomy. Pathology identified exophytic Schneiderian papilloma. At 6-week follow-up, the patient’s nasal congestion, apnea, and snoring had resolved.

Case Presentation

An 11-year-old African American male was seen in the pediatric otolaryngology clinic for an evaluation of snoring. He admitted to nasal congestion and denied other nasal/sinus complaints. He was noted to have 3+ tonsils. A subsequent sleep study diagnosed severe OSA, and the patient was scheduled for tonsillectomy and adenoidectomy. During the procedure, the nasopharynx was examined and an unexpected mass was seen. The mass appeared polypoid and engulfed most of the nasopharynx. After the tonsils were resected, a rigid endoscope was used to examine the nasal cavity and nasopharynx to attempt to identify the origin of the nasopharyngeal mass. On the right, the mass was seen in the posterior nasal cavity, but on the left it was only seen in the nasopharynx. The point of origin was not seen. Thus, the decision was made to not biopsy or excise the mass at that time.

The following day, CT with contrast revealed the patient had a homogenous soft tissue mass located within the right inferior posterior nasal cavity, encompassing the posterior aspect of the inferior nasal turbinate (Figures 1 and 2). There was extension through the choanae towards the roof of the nasopharynx to the inferior sphenoïd sinus and the undersurface of the clivus. The surrounding osseous structures were within normal limits with no evidence of bony destruction. Nasal polyps, lymphoma, and hemangiomata were included in the differential diagnosis.

Within a month, the patient underwent endoscopic removal of the nasal/nasopharyngeal mass and adenoidectomy. The mass was seen emanating from the right inferior posterior turbinate and was very friable. The mass was removed with a microdebrider, and sent for both lymphoma and standard cytology. The surgical pathology report revealed a thickened sinonasal mucosa with surface epithelium showing greater than 10 cell layers and features of squamous and follicular respiratory-type epithelium (transitional type) (Figures 3 and 4). Characteristic transmuralization of polymorphonuclear neutrophilic granulocytes with microabscess formation was noted. Hence, the pathological diagnosis was Schneiderian papilloma, exophytic type.

He was seen 6 weeks postoperatively and his nasal congestion, apnea, and snoring were reported to be eliminated. Nasal endoscopy revealed a 1 mm pale papule at the choana soft palate location. He was scheduled for re-evaluation in 6 weeks.

Discussion

Schneiderian papillomas are a rare cause of nasal polyposis in adults and even rarer in children. Our patient had the exophytic/fungiform type, and fungiform papillomas (FPs) have been found to be 2 to 10 times more common in males and to occur primarily in adults aged 20-50 years (range, 21-87 years). The typical presenting symptoms are epistaxis with unilateral nasal obstruction or the presence of an asymptomatic mass. On physical examination, FPs appear as translucent growths attached to the nasal septum by a broad base. Evidence suggests that FPs are etiologically related to HPV, particularly types 6 and 11.

Schneiderian papillomas arise from the Schneiderian membrane, which is an ectodermally derived ciliated respiratory mucosa that lines the sinonasal tract. This membrane gives rise to three morphologically distinct papillomas, referred to collectively as Schneiderian papillomas and individually: fungiform, inverted, and oncocytic papillomas. They are most commonly fungiform, followed by inverted, and oncocytic. FP can be further divided into exophytic papilloma, septal papilloma, and squamous papilloma.

Figures

Figure 1: CT axial view demonstrating the non-enhancing lesion emanating from the right inferior posterior turbinate. No osseous destruction noted. Arrow points towards lesion.

Figure 2: CT coronal view demonstrating the non-enhancing lesion emanating from the right inferior posterior turbinate. No osseous destruction noted. Arrow points towards lesion.

Figure 3: Thickened sinonasal mucosa with surface epithelium showing greater than 10 cell layers and features of squamous epithelium. H&E stain, low power magnification (20x).

Figure 4: Transmuralization of polymorphonuclear neutrophilic granulocytes with microabscess formation. Sars show microabscess formation. H&E stain, high power magnification (400x).

Conclusion

Although Schneiderian papillomas are rare, especially in the pediatric population, they should be included in the differential diagnosis for nasal masses causing epistaxis, nasal obstruction, and/or obstructive sleep apnea. The fungiform type (exophytic) responds very well to local excision, with recurrence being rare.

References