Venous Malformation of the Inferior Turbinate: A Case Report

Daniel Strigenz MD¹, Stanley McClurg, MD¹, Michael Arnold, MD², Jonathan M Grischkan, MD¹-³

1 Department of Otolaryngology, The Ohio State University Wexner Medical Center, Columbus OH
2 Department of Pathology, Nationwide Children’s Hospital, Columbus OH
3 Department of Pediatric Otolaryngology, Nationwide Children’s Hospital, Columbus OH

abstract

Vascular anomalies in the head and neck are common among pediatric patients. However, anomalies of the nasal cavity are quite rare. When present, they may present with nasal obstruction, epistaxis, snoring, or sleep apnea. We present the case of an 18-year-old female with history of cleft palate who presented with a long history of nasal obstruction and tonsillar hypertrophy. At the time of planned tonsillectomy and adenoidectomy, she was noted to have a 2.0 x 1.6 cm lesion originating from the left inferior turbinate. The mass was surgically excised, and pathology confirmed a diagnosis of venous malformation. This is the only documented case of a venous malformation arising from within the inferior turbinate. The unusual location of this mass coupled with her symptoms typical of adenotonsillar hypertrophy led to difficulty with initial diagnosis.

case presentation

An 18-year-old female with obesity and history of a surgically repaired cleft palate presented with severe bilateral nasal obstruction for many years. Physical examination revealed 3+ tonsils and mild septal deviation. A polysomnogram demonstrated snoring and nasal obstruction, but no sleep apnea. An adenotonsillectomy was recommended for adenotonsillar hypertrophy presumably as a cause for her sleep disordered breathing.

Intraoperatively, tonsillectomy was performed routinely. No adenoid tissue was found; however, the posterior aspect of the left inferior turbinate was noted to be significantly obstructive of the posterior choana. Intra-operative consent was obtained to proceed with turbinate reduction. On endoscopy it was noted that this represented a discrete mass that was actually arising from the left inferior turbinate. It was excised using bipolar cautery and a back-biting forceps. The right posterior turbinate was then reduced through the left nasal cavity by reaching around into the right nasal cavity, as the vomer and posterior septum were absent due to the patient’s history of cleft palate.

There was no significant intra-operative hemorrhage. The patient’s post-operative course was uncomplicated. Good symptom resolution was noted at follow-up.

pathology

The resected specimen was 2.0 x 1.6 x 0.6 cm. Histologic analysis was consistent with venous malformation.

discussion

Venous malformations are slow-flow vascular malformations composed of ectatic venous channels lined by flat endothelial cells. They are present at birth and do not regress. While most occur in the head and neck, they most commonly arise in the oral cavity, airway, and cervicofacial musculature. To our knowledge, this is the only documented case of a venous malformation arising from within the inferior turbinate.

The diagnosis of a venous malformation is primarily clinical and may be suspected with lesions that are blue or purple, soft, compressible, and non-pulsatile. Many do not manifest themselves until later in life after a phase of rapid growth incited by trauma, infection, or hormonal milieu. We postulate that hormonal changes of adolescence incited our patient’s mass to grow and led to onset of her nasal obstruction. Recent research has identified the presence of progesterone receptors within vascular malformations that may explain the rapid growth of these lesions during adolescence.

The treatment of venous malformations is dependent upon the size and location of the lesion. Small and asymptomatic lesions may be amenable to careful observation. Larger or more intrusive lesions may be treated with surgical excision, laser therapy, sclerotherapy, embolization, or cryotherapy. Surgical excision offers the best option for complete resolution and cure of the malformation, but may place the patient at risk for significant intra-operative bleeding or post-operative morbidity.

acknowledgements

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references