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Case Report

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Prolapsed Nasal Polyp Causing Acute Airway Obstruction: An Exceptional Presentation

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Keywords
Nasal polyp · Polypectomy · Difficult airway · Airway obstruction

Abstract
Although nasal polyposis is a common clinical entity, there is limited literature describing the rare presentation of sudden prolapse of a massive nasal polyp resulting in an airway emergency in an adult. We present the first case report to our knowledge of a patient without any preceding sinonasal symptoms or history of anticoagulation who experienced acute upper airway obstruction due to sudden hemorrhage and prolapse of a large nasal polyp. Based on our experience treating this patient, we discuss special considerations in all phases of care to ensure safe and effective management of such an exceptional clinical scenario.

Introduction

Nasal polyposis is a chronic inflammatory disease commonly arising from the paranasal sinuses and lateral nasal walls. Nasal polyps arising from the nasal septum are rare and posterior prolapse of a massive sinonasal polyp into the oropharyngeal airway is an even more unusual clinical scenario. Herein, we present the first case report to our knowledge of an adult patient without any preceding sinonasal symptoms or history of anticoagulation who experienced acute upper airway obstruction due to sudden hemorrhage and prolapse of a massive nasal polyp. Informed consent for publication was obtained from the patient and per the Mass General Brigham Institutional Review Board (IRB), this case report is exempt from requiring IRB approval.

Case Report

A 68 year-old male with no past medical history or history of inhalant allergies presented to the emergency department with sudden onset of globus sensation and the inability to phonate, swallow, or lay flat. Exam demonstrated a firm, violaceous mass obstructing his oropharynx (Fig. 1a). Nasopharyngoscopy demonstrated a right-sided nasal polyp prolapsing into the oropharynx. Decision was made to defer CT imaging as the patient was unable to lay flat, and he was taken directly to the operating room for awake fiberoptic transoral intubation and nasal polypectomy.

The oropharynx was treated with topical anesthesia, and an oral airway was used to move the mass toward the right oropharynx as the fiberoptic scope was passed through the left oropharynx down into the trachea. A 6.5 mm ID endotracheal tube was then passed over the fiberoptic scope into the airway. After induction of general anesthesia, a tonsil gag was placed and the pedunculated

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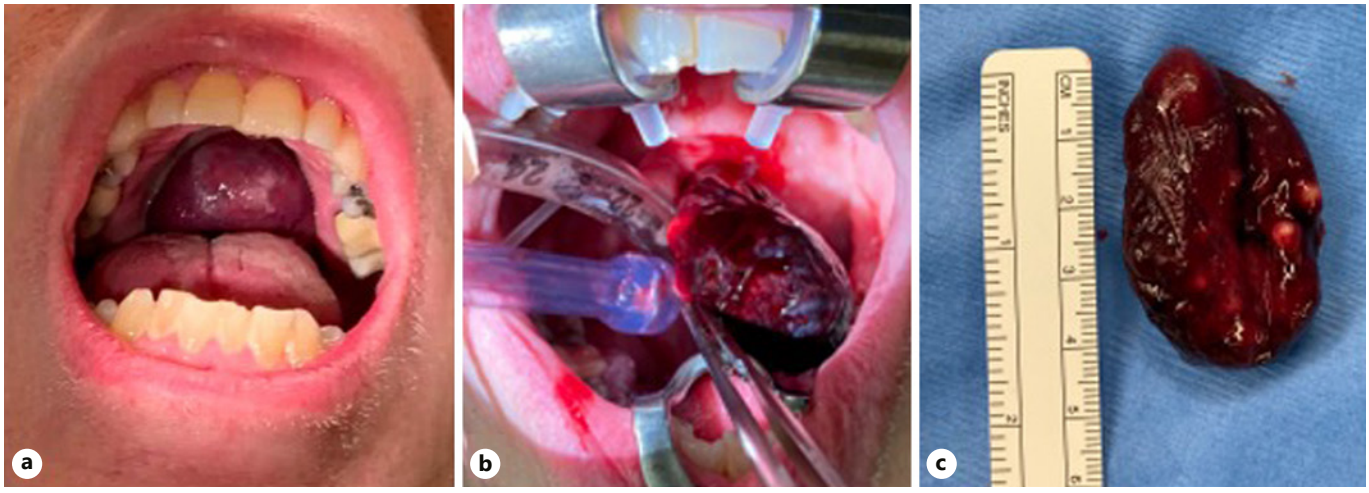

Fig. 1. Clinical case images. **a** Preoperative photo of emergency room oral cavity exam. **b** Intraoperative photo of oropharyngeal component of the prolapsed nasal polyp. **c** Ex vivo photo of oropharyngeal component of the nasal polyp after transoral resection.

oropharyngeal mass (4.9 × 3.1 cm) with a stalk emanating from the right nasopharynx was truncated using bipolar cautery (Fig. 1b,c). Nasal endoscopy was then performed and demonstrated a large polyp (4.1 × 2.1 cm) in the right nasal cavity emanating from the posterior nasal septum, which was extirpated in its entirety. Final pathology was consistent with polypoid chronic rhinitis with abundant mucus retention cysts. The patient's postoperative CT demonstrated mild mucosal thickening in the paranasal sinuses bilaterally and no evidence of masses or additional polyps. At his 2-month postoperative visit, the patient was recovering well and denied any sinonasal symptoms. Nasal endoscopy demonstrated the right nasal cavity to be healing well and was without any polyps or masses.

Discussion

Although there are several case reports of prolapsed antrochoanal polyps causing respiratory distress in children [1], there are few studies describing the potential of a nasal polyp to acutely hemorrhage and cause airway obstruction in adults [2, 3]. Additionally, this is the first case report to our knowledge of a septal-based polyp prolapsing into the airway in a patient without any preceding sinonasal symptoms or history of anticoagulation. All prior case reports of a prolapsed nasal polyp causing respiratory distress in adults have been reported in patients on anticoagulation or with a history of chronic rhinosinusitis [3, 4]. We hypothesize that there is a much greater propensity for a nasal polyp to acutely hemorrhage with resultant rapid expansion causing prolapse and airway obstruction in patients on systemic anticoagulation.

The differential diagnosis for a nasal polypoid mass includes benign entities such as encephaloceles, mucoceles, inflammatory nasal polyps, and inverted papillomas and malignant etiologies, including lymphoma and esthesioneuroblastoma [4, 5]. Initial work-up should entail a detailed history and careful physical examination, including nasopharyngolaryngoscopy, and CT imaging can be considered based on the degree of airway obstruction and the patient's ability to tolerate lying flat. The importance of determining the safest method and relative urgency of securing the airway first cannot be overemphasized. We recommend the transoral awake fiberoptic technique in the sitting position as the safest method of intubation for such a patient. After securing the airway, depending on the dimensions and firmness of the lesion, its oropharyngeal component can be truncated first and the endonasal component of the polyp should then be resected in its entirety to minimize the risk of recurrence.

Conclusion

We present the exceptional case of an adult with sudden prolapse of a massive nasal polyp into the upper airway that was successfully managed with awake fiberoptic transoral intubation and subsequent transoral and endonasal resection. Ultimately, this report underscores the importance of expedient securement of the airway prior to consideration of obtaining imaging or proceeding with resection during such an unusual and potentially morbid clinical scenario.

Statement of Ethics

The patient described in this report provided written informed consent to publish their case and clinical images.

Conflict of Interest Statement

The authors have no conflicts of interest to disclose.

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Author Contributions

K.R.P. is the corresponding author and first author and contributed to the conception of the study and manuscript preparation. A.E.L. performed the chart review and contributed to the manuscript preparation and literature review. A.J. performed the literature review and contributed critical revisions of the manuscript. D.L.F. is the attending surgeon for this patient and contributed to the conception of the study and critical edits to the final draft of the manuscript. All authors read and approved the final manuscript.

References

1 Ayache S, Chatelain D, Denimal F, Descheppper B, Deramond H, Benhaïm T, et al. [A rare case of nasal and buccal obstruction in a child: the antrochoanal polyp of Killian]. Arch Pediatr. 2005 Oct;12(10):1492–5. Un cas rare d'obstruction nasale et buccale chez l'enfant: le polype antrochoanal de Killian.

2 Ozdek A, Ozel HE. Unusual presentations of choanal polyps: report of 3 cases. Ear Nose Throat J. 2014 Feb;93(2):E10–3.[Online]. Availableat: https://www.ncbi.nlm.nih.gov/pubmed/24526483.

3 Whittle TT, Benzie S, Graham D. Prolapsed antrochoanal polyp: an unusual cause of acute adult respiratory distress. BMJ Case Rep. 2017 Oct 13;2017:bcr2017220518.

4 Frosini P, Picarella G, De Campora E. Antrochoanal polyp: analysis of 200 cases. Acta Otorhinolaryngol Ital. 2009 Feb;29(1):21–6. [Online]. Available at: https://www.ncbi.nlm.nih.gov/pubmed/19609378.

5 Yaman H, Yilmaz S, Karali E, Guclu E, Ozturk O. Evaluation and management of antrochoanal polyps. Clin Exp Otorhinolaryngol. 2010 Jun;3(2):110–4.