The Management of Refractory Epistaxis: A Proposed Treatment Algorithm

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ABSTRACT

Objectives: To understand the management of patients with refractory epistaxis and know which patients may benefit from surgery versus embolization.

Study Design: A case report of two patients presenting with refractory epistaxis at a tertiary care institution. A review of the literature will help formulate an algorithm for management of this condition.

Methods: A cohort of patients treated at a tertiary care institution were evaluated and treated by either embolization or surgical intervention. A review of the literature was performed to create an algorithm in the management of patients with refractory epistaxis.

Results: All patients were successfully treated by either embolization or surgical intervention. One patient who presented with refractory epistaxis during pregnancy was successfully treated with surgical ligation. One patient with severe peripheral vascular disease suffered loss of vision after embolization. Important considerations will be discussed in selecting particular treatment modalities and a treatment algorithm will be presented.

Conclusions: The management of epistaxis has evolved to utilize a myriad of treatment modalities, both nonsurgical and surgical techniques. Proper knowledge of which patients would benefit from either modality is imperative in the decision making process.

INTRODUCTION

Epistaxis is a common complaint in the realm of otolaryngology patients. Up to 60% of the population is affected by epistaxis at some point in their life with 6% requiring medical attention.1,2 Most of the cases experienced by individuals in the outpatient setting are self-limited, but patients are often sent to a tertiary care institution for a more aggressive intervention. These interventions are often step-wise and with each successive attempt the procedures become more technically demanding and invasive. Patients who have failed conservative anterior and posterior nasal packing often require cauterization, angiographic embolization or surgical ligation.

There is scarce literature that covers the management of complicated epistaxis with evidence-based guidelines. We present two cases of refractory epistaxis, propose a treatment algorithm to help clinicians select from the myriad of options available and discuss considerations for surgical versus embolization intervention.

CASE REPORT

The first is a 38-year-old female at 17 weeks gestation with twins and a recurrent arterial bleed from a branch of the sphenopalatine artery lateral to the inferior turbinate. The patient failed conservative measures including both anterior and posterior nasal packing. Because of the unknown risk of intravenous iodinated contrast to the fetus, as well as the need for radiation exposure during endovascular embolization, the patient was treated with endoscopic cauterization of the sphenopalatine artery under general anesthesia. The obstetrics team followed the patient perioperatively with serial fetal ultrasounds to ensure the safety of the twins during treatment.

The second patient is a 74-year-old male with a history of diabetes, well-controlled hypertension, and peripheral vascular disease status post lower extremity bypass. He presented with massive refractory right-sided epistaxis that resolved after placement of anterior and posterior nasal packing and reversal of his anticoagulation. Anticoagulation was imperative to maintain the bypass patency, so enoxaparin was initiated. He developed a recurrent bleed requiring packing placement. The patient was treated with percutaneous angiography to localize the source of the bleeding and subsequently underwent embolization of the right internal maxillary artery utilizing 100-300 micron Embospheres®. The procedure was complicated by sudden right eye blindness, with no subsequent recovery of vision.

TREATMENT ALGORITHM

The initial presentation of epistaxis varies from a brisk flow to gentle oozing, and thus will direct the amount of resuscitation required to stabilize the patient. A focused history and examination will assist in elucidating potential causes and tailor adjunct treatments. Identification of the site of bleeding, if possible, will aid in determining the appropriate management. In severe cases, intubation and control of the airway may be necessary especially if altered mental status is an issue and the patient represents a high aspiration risk.

Initiation of the conservative measures outlined in Figure 1, should occur in a stepwise fashion. Only upon failure of the attempted treatment should the practitioner proceed to a more aggressive modality, leaving surgery and endovascular treatments for refractory bleeding. The nasal cavity should be kept moist and counseling regarding epistaxis precautions should be discussed.

CONCLUSIONS

The treatment of epistaxis is a progression of interventions, non-surgical methods are initially utilized and eventually escalated to more involved procedures as indicated. Unfortunately treatment algorithms differ in every institution, based on resource availability, surgical and radiological support staff. In cases of refractory epistaxis both surgical ligation and endovascular embolization are highly effective, safe and present low complication rates. The optimal treatment modality and progression of interventions remains controversial, but a standardized treatment plan as presented should be in place at every institution for effective patient care.

SELECTED REFERENCES

6. Please contact author for full list of references.