Original Research Paper

Volume -10 | Issue - 4 | April - 2020 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

ENT

ENDOSCOPIC CAUTERIZATION OF SPHENOPALATINE ARTERY IN POSTERIOR EPISTAXIS- OUR EXPERIENCE

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ABSTRACT Epistaxis is one of the commonest emergencies in Otorhinolaryngology. The management of epistaxis sometime becomes challenging for us especially posterior epistaxis. Intractable posterior epistaxis sometimes can be life threatening because of hypotension, anaemia, aspiration & associated co-morbidities1. Most of the cases are managed with conventional methods in the form of anterior & posterior nasal packing, chemical cautery and failure leads to need for more invasive techniques like ligation of internal maxillary artery &external carotid artery. But these are not entirely satisfactory procedures because of high failure rate, co-morbidity & occasional significant complication. Over the last decade endoscopic ligation or cauterization of sphenopalatine artery has emerged as a viable & minimally invasive alternative. In this article, we describe our experience with endoscopic cauterization of sphenopalatine artery in management of severe posterior epistaxis in 16 patients in which conservative treatment had failed. There was no further episode of epistaxis & morbidity with an average follow-up of 9 months in 14 out of 16 cases. Only 2 patients had anterior epistaxis in follow up which was managed with anterior nasal packing.

KEYWORDS : Sphenopalatine artery, Endoscopic cauterization

INTRODUCTION:

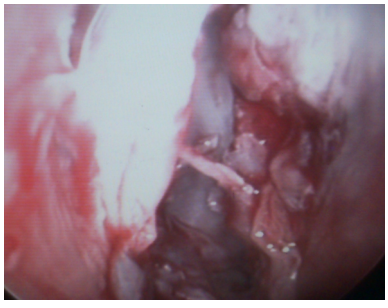
The management of intractable posterior epistaxis sometime becomes challenging toENT surgeons. When the conservative measures fail then surgical management becomes the next management step. The conventional surgical approaches are ligation of internal maxillary artery via Caldwell-Luc approach, ligation of ethmoidal artery via Howarth's incision & ligation of external carotid artery in severe cases. More recently endoscopic ligation or cauterization of sphenopalatine artery has become a popular treatment option for posterior epistaxis that has failed conventional nasal packing. Endoscopic sphenopalatine artery cauterization causes interruption of the nasal vasculature at a point distal enough to prevent direct, retrograde & anastomotic blood flow from ipsilateral& contralateral carotid system[2]. This technique is associated with fewer or no complication & shorter hospital stay[3]. However locating the sphenopalatine foramen in bleeding patient can be difficult. Thus good knowledge of local anatomy is essential[4].

MATERIALS & METHODS:

Between January 2018&June 2019 we have treated 16 patients with intractable posterior epistaxis by endoscopic sphenopalatine artery cauterization. All the patients with suspected posterior epistaxis were initially managed with classical posterior nasal packing or balloon catheter. The patient is then admitted to the ward for observation. The next day packs were removed & endoscopy was performed to confirm the site of bleeding. Once the posterior epistaxis was noted, patients were subjected to endoscopic sphenopalatine artery cauterization under local anesthesia.

SURGICAL TECHNIQUE:

The procedure was done under local anesthesia. At first nose was decongested using 4% lignocaine & 1: 100,000 adrenaline solutions soaked cottonoids half hour before endoscopy. 3 ml of 2% lignocaine with 1:100,000adrenaline was injected into mucosa overlying the lateral nasal wall of middle meatus under endoscopic guidance. An incision was made in the lateral wall of middle meatus 1 cm anterior to posterior attachment of middle turbinate. A mucosal flap was raised with Freer's elevator posteriorly and sphenopalatine artery identified as it exits from the sphenopalatine foramen. This artery was then diathermised with a specialnasal bipolar cautery. The flap was then repositioned and nasaltamponade (Merocel) as applied & kept for 24 hours. The patients were discharged & followed up in OPD clinic.



RESULTS:

The results are summarized in table 1. The procedure took about 30 minutes. Intraoperative & postoperative period was uneventful. All patients had successful control of epistaxis. All patients were discharged on 2nd postoperative day with advice of normal saline nasal douching & oral amoxicillin (500 mg) thrice daily for 5 days to prevent any infection. On follow-up they underwent endoscopic nasal examinationafter 2 weeks & 4 weeks. They were further followed up after 3 months, 6 months & 9 months in ENT OPD clinic. No significant complication or morbidity has been noted till present.

Serial no.	Age/Sex	Presentation	Side	Associated disease/comorbidity
1	35/M	Recurrent epistaxis treated with repeated ANP	Left	
2	42/M	Recurrent epistaxis which required ANP twice	Bilateral	Alcoholic liver disease
3	48/M	Recurrent epistaxis managed with ANP twice & PNP once	Right	
4	38/F	Recurrent epistaxis which required ANP	Left	Hypertension
5	52/M	Recurrent epistaxis which required ANP twice	Left	
6	60/M	Recurrent epistaxis treated with repeated ANP	Right	
7	42/F	Recurrent epistaxis treated with repeated ANP	Bilateral	
8	36/M	Recurrent epistaxis which required ANP	Left	Hypertension
9	56/M	Recurrent epistaxis treated with repeated ANP	Right	

10	68/M	Recurrent epistaxis which required ANP	Right	COPD
11	42/F	Recurrent epistaxis managed with ANP twice & PNP once	Right	Hypertension, Gross DNS
12	52/M	Recurrent epistaxis required repeated ANP & PNP twice	Left	
13	60/M	Recurrent epistaxis treated with repeated ANP	Bilateral	Coronary heart disease
14	38/M	Recurrent epistaxis which required ANP twice	Left	
15	46/F	Recurrent epistaxis treated with repeated ANP	Left	
16	56/M	Recurrent epistaxis required repeated ANP & PNP twice	Bilateral	Diabetic

N.B:
ANP- Anterior nasal packing, PNP- Posterior nasal packing, M- Male, F- Female, COPD- Chronic obstructive pulmonary disease, DNS- Deviated nasal septum.

DISCUSSION:

Conservative management which still remains the mainstay of treatment is effective in majority of cases. Posterior epistaxis is usually controlled with Foley's catheter with its balloon inflated with 12-15 ml of air. However these measures are often very troublesome to patients and can lead to prolonged hospital stay[5]. Other than packing, direct cauterization, external carotid artery ligation, selective maxillary artery embolization, transantral maxillary artery ligation, anterior ethmoidal artery ligation &septoplasty are various options[6]. Yet none of these treatments is ideal. Traditional surgical procedures for intractable epistaxis have their drawbacks. All these measures have high failure rate ranging from 26-52%[7]. In recent years, the advent of nasal endoscopy has facilitated direct approach to the sphenopalatine artery. This avoids the morbidity associated with the more traditional surgical methods which can be upto 25%[5]. Recent management of epistaxis includes angiography & embolization of bleeding vessels, endoscopic clipping and cauterization of sphenopalatine artery. Angiography & embolization of offending vessel requires a sophisticated set-up which is not available in many centres. Moreover this procedure may be associated with serious neurological complications[8]. In 1997, Sharp et al elevated a mucosal flap over the sphenopalatineforamen and then used a transnasal endoscopic approach to apply either diathermy or clips to the sphenopalatine vessels in 10 patients with intractable epistaxis. They reported no treatment failure[6]. Similarly Pritikin et al applied bipolar diathermy & hemostatic clips to the sphenopalatine vessels via a transnasal endoscopic route in 10 patients with intractable epistaxis and they also reported a success rate of 100%[6]. Multiple studies have reported a success rate of over 90% with no significant complications[9,10]. In our study two patients had anterior epistaxis in followup period. Both of them were managed by anterior nasal packing. 14 patients had complete control of epistaxis with this procedure with no significant complication.

CONCLUSION:

The endoscopic approach is non invasive, offers considerable reduction in surgical &anaesthetic time as compared to other methods and have minimal morbidity and failure rates. This technique improves the patient comfort &doesn't need prolonged hospitalization. So endoscopic sphenopalatine cauterization is a safe & efficient method of controlling persistent posterior epistaxis with minimal complication.

REFERENCES:

1. Hadoura L, Douglas I et al, Mapping. Surgical Coordinates of sphenopalatine foramen: Surgical navigation study. The journal of Laryngology& Otology 2009;123:742-5
2. Sharp HR, Rowe-Jones JM, Maekay IS. Endoscopic ligation or diathermy of SPA in persistent epistaxis. J Laryngology Otology 1997;111:1047-50
3. Feusi B, Holzmann D et al. Posterior epistaxis: Systemic review on the effectiveness of surgical therapies. Rhinology 2005;43:300-4
4. Mc Garry, GW. Nasal endoscope in posterior epistaxis: a preliminary evaluation. J Laryngology Otology 1991;105:428-31
5. N Prepageran, Krishnan Gopala. Endoscopic coagulation of sphenopalatine artery for posterior epistaxis. Singapore Med. J 2003 vol44(3):123-125
6. Shah G Anand, Stachler J Robert et al. Endoscopic ligation of sphenopalatine artery as a primary management of severe posterior epistaxis in patients with coagulopathy. Ear Nose Throat journal May 2005:296-297
7. Schaitkin B, Strauss M et al. Epistaxis: Medical versus Surgical therapy, comparison of efficacy, complications and economic considerations. Laryngoscope 1987:97:1392-5
8. Siniluoto TM, LeinonenAS et al. Embolization for management of posterior epistaxis. Arch Otolaryngol 1993:837-41
9. Sharp HR, Rowe-Jones JM et al. Endoscopic ligation of sphenopalatine artery in persistent epistaxis. J Laryngolotol 1997;111:1047-5
10. Wiorowski M, Schultz P et al. Indication & results of cauterization by endoscopic approach of the sphenopalatine artery in severe posterior epistaxis. AurisNasus Larynx 2004;31:131-3