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AVOIDANCE OF NASAL PACK BY ROUTINE USE OF NASAL ENDOSCOPE IN INITIAL MANAGEMENT OF EPISTAXIS

ENT

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ABSTRACT

Introduction - This study was undertaken with the objective to know whether routine use of nasal endoscope in initial management of epistaxis can help to control bleeding without the need of nasal pack so as to achieve targeted haemostasis with minimal discomfort.

Material and methods- We conducted a cross sectional study enrolling 21 patients who were treated with nasal pack in other centers within less than 6 hours from onset of bleeding but were still bleeding and were referred to ENT department of our hospital with nasal pack in situ. Deliberate search for bleeding point was made and tried to control bleeding by direct methods.

Result- In 19 patients bleeding point was localized precisely whereas in 2 patients it was not. We controlled bleeding in 17 patients by chemical cautery or bipolar diathermy. In 2 patients repacking was done with medicated ribbon gauge as bleeding point could not be localized and bleeding was diffuse. Miniature pack of gelfoam was used to pack the inferior meatus in one patient. One patient had a bleeding polyp which was excised endoscopically and haemostasis achieved. Overall 19 patients (90.47 percent) were managed by various direct therapies in our study.

Conclusion- It is expected that routine use of nasal endoscope in initial management of epistaxis will help in accurate identification and good control of bleeding avoiding discomfort and complication of nasal packing.

KEYWORDS

Epistaxis, nasal pack, nasal endoscopy.

INTRODUCTION

Epistaxis is a symptom of a large number of widely diverse conditions.[1] It is a frequent otolaryngological emergency, of which the great majority are minor and are easily managed. Occasionally it may occur in a severe and life threatening form compromising patient's airway and resulting in haemodynamic instability.[2] Management of epistaxis is complex and key to control most epistaxis is to find out the site of bleeding.[3] Commonly epistaxis occur from the anterior part of nasal cavity and is easily controlled by cauterization under direct vision . However in a number of times bleeding point cannot be localized by anterior rhinoscopy as these are hidden in the deep crevices of lateral wall or in the posterior part of nasal cavity.[4]

Nasal packing is a traditional method of management and is used whenever there is failure to localize the bleeding point. Both ribbon gauge and nasal tampons are based on the principle of exerting pressure on the walls of the nasal cavity. Nasal pack is readily available and nasal tampons have the advantage of easy placement and removal particularly in emergency settings without the need for anesthetist or theatre space.[1] But it has a high failure rate of 26 to 50 percent and is associated with marked discomfort, swallowing difficulty, and can lead to various local and systemic complication like mucosal abrasion, headache ,lacrimation, facial oedema, negative middle ear pressure and otitis media, columellar or alar necrosis, septal perforation, synechia, raised blood pressure, sleep disturbance and fall of oxygen saturation during sleep.[4,5,7,8] It may also lead to sinusitis due to blockage of ostia and toxic shock syndrome as raw mucosal surface and blood soaked packing materials are good media for bacterial multiplication.[1] Sometimes it may be displaced posteriorly causing airway obstruction and patient with nasal pack need hospitalization and constant monitoring.

Now a days with development of endoscopic technology, new ways of managing epistaxis are available. Rigid nasal endoscopy not only help in localization of bleeding point but also enables targeted haemostasis of the bleeding vessels using chemical cautery ,bipolar diathermy, direct pressure from miniature targeted pack, and ligation of sphenopalatine artery.[6,9]

This study was undertaken with the objective to know whether routine use of nasal endoscope in initial management of epistaxis can help to control bleeding without the need of nasal pack so as to achieve targeted haemostasis with minimal discomfort, short hospital stay and low complication rate.

MATERIAL AND METHODS

We conducted a cross sectional study in a tertiary care hospital of Guwahati, Assam (Down Town Hospital) during the time frame between 1st May 2017 and 30th April 2018. Study population included those patients who presented to ENT department of our hospital with epistaxis with nasal pack in situ. These patients continued to bleed in spite of being treated with anterior nasal pack (either unilateral or bilateral) in peripheral centers.

Written consent was taken and management began with evaluation and treatment side by side. In case of stable patients history details were noted as per a prepared study proforma. However appropriate resuscitative measures were adopted whenever the bleeding was severe and history details were noted only after stabilizing the patients. Nasal packs were removed and both nasal cavities were prepared by inserting cotton pledgets soaked in 4% lignocaine with adrelanile for 10 minutes. Adequate illumination and suction apparatus was used to clear the nasal cavities. Anterior and posterior rhinoscopy was done using Thudicum's nasal speculum and St. Clair Thomson's post nasal mirror respectively. If bleeding point could be identified by anterior or posterior rhinoscopy then the patient was excluded from the study. Thus we removed the bias for nasal endoscopy.

Nasal endoscopy was done using 0 and 30 nasal endoscope. When the bleeding point was visualized it was cauterized with 75% silver nitrate stick for 10 seconds. Cauterization was started on the edge of the bleeding area and moved radially into the centre. It was followed by application of framycetin cream to the area. If not controlled or for posteriorly located bleeding points bipolar diathermy was used after infiltrating with 2% lignocaine. If the bleeding point could not be visualized discretely then miniature packing with gelfoam soaked in haemocoagulase solution was considered.

Successful treatment was defined as no readmission with epistaxis within 24 hours. All patients were followed up on next day,7th day and 30th day. Study variables were clinical findings and therapeutic aspects. Descriptive statistical methods were applied and variables were presented in frequencies and percentage based on the ease of understanding.

RESULTS

We studied 21 patients. Out of these 15 patients had anterior (anterior to the plane of pyriform aperture) and 4 patients had posterior epistaxis (posterior to the plane of pyriform aperture). In 2 patients bleeding was diffuse and bleeding areas were found on both anteriorly and posteriorly (table 1). In 19 patients bleeding point was localized

precisely whereas in 2 patients it was not (table 2). We controlled bleeding in 17 patients by chemical cautery or bipolar diathermy (table 3). In 2 patients repacking was done with medicated ribbon gauge as bleeding point could not be localized and bleeding was diffuse. Miniature pack of gelfoam was used to pack the inferior meatus in one patient. One patient had a bleeding polyp which was excised endoscopically and haemostasis achieved. No complication was found in any patients during the follow up period.

Table 1

Area of bleeding	Number/frequency	Percentage (%)
Anterior	15	71.42
Posterior	4	19.04
Both	2	9.52

Table 2

Site of bleeding	Number/frequency	Percentage (%)
Septum	7	33.33
Lateral wall	6	28.57
Multiple	3	14.28
Floor	2	9.52
Bleeding polyp	1	4.76
Unknown	2	9.52

Table 3

Treatment methods	Number/frequency	Percentage (%)
Chemical cauterization	10	47.61
Bipolar diathermy	7	33.33
Repacking	2	9.52
Miniature packing	1	4.76
Excision of bleeding polyp	1	4.76

DISCUSSION

Treatment of epistaxis is divided into direct and indirect treatment. Direct treatments (i.e. bleeding point specific treatment) are logically and theoretically superior and therefore a committed search for the bleeding vessel should be undertaken.[10]

All patients enrolled in our study were initially managed by some form of nasal pack (either ribbon gauge or nasal tampons). As epistaxis is alarming both for the patients and emergency staffs, most of the time, it is managed by blind and rough nasal packing, often in a hurried manner sometimes even by persons without sufficient skill. Nasal packing failed to control bleeding in our study population. It may be due to the fact that presence of septal deviation or spur and nature of nasal mucosa and recesses prevents the pack to reach the bleeding points.[11] Sometimes a single bleeding point may be converted to a large abraded bleeding area and there will be continuation of bleeding. Persistent bleeding or rebleeding is an indication for further examination of nasal cavity and a renewed search for the bleeding point.[10] However detection of bleeding point in the nose is a challenge in itself due to the covert areas which are difficult to access by anterior and posterior rhinoscopy.[6]

Failure to locate the bleeding point on initial examination is an indication for examination with a rod lens endoscope.[10] In our study we were able to locate the site of bleeding in 19 (90.47 percent) patients. It is in accordance with the data available in the literature where it is mentioned that endoscopy identifies the source of epistaxis in over 80 percent of cases. [10]

Most of the cases in our study were anterior epistaxis (71.42 percent). As mentioned in the literature , the use of packing for anterior epistaxis is unwarranted and should be discouraged since over 90 percent of cases can be controlled by silver nitrate cautery.[10] We managed 47.61 percent cases with chemical cautery only. We used endoscopes to do it precisely. Overall 19 patients (90.47 percent) were managed by various direct therapies in our study. In a similar study, J paul et al [4] could avoid nasal packing in 74 percent cases by use of nasal endoscope. S Chhapola et al [11] conducted a study comparing blind nasal packing versus endoscopic control of epistaxis in emergency settings and found the complication rate to be considerably higher in the group treated by nasal pack. In our study no complication was observed in the follow up period.

Most probably all patients in our study were initially managed either by blind nasal packing or inability to localize bleeding point compelled the treating doctor to use nasal pack. The nasal pack was not effective as bleeding was continuing. We localized bleeding point in most of the patients by the use of endoscope hence had the advantage of instituting specific treatment. It was interesting to observe that most of the patients were managed by comparatively simple methods without the need of skill demanding. technique and admission. We assume if endoscopes were used in initial evaluation of patients with epistaxis probably most of the patients would have been managed by simple direct methods avoiding discomfort and complication of nasal pack.

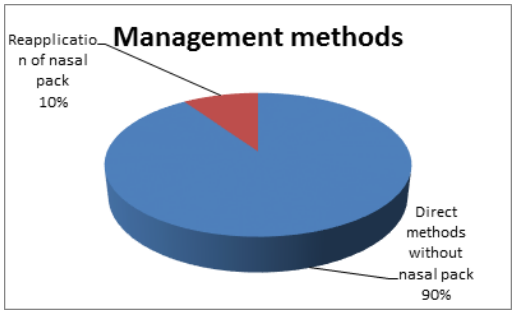
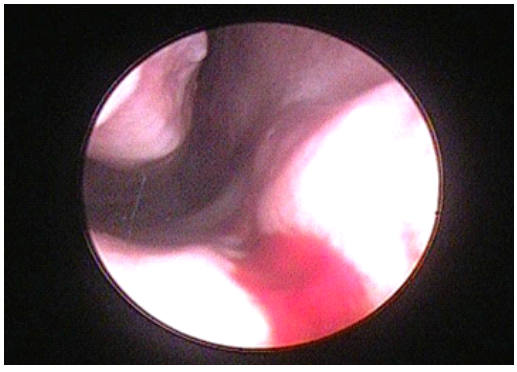


Figure 1



Bleeding point behind a septal spur as seen on nasal endoscopy.

CONCLUSION

Routine use of nasal endoscope in initial management of epistaxis can make a difference. As it provide superb visualization and make precise instrumentation possible, it is expected that it will help in accurate identification and good control of bleeding. It will also help to avoid discomfort of prolonged nasal packing and its subsequent complication and will reduce hospitalization cost. However a large multi centre study is recommended as our study is limited involving small study group.

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