Original Research Article

A study of factors associated and outcomes of management of epistaxis at tertiary health care centre

Anshu Kumar[1*], Satish Kumar[2]

[1]Senior Resident, [2]Professor and HOD, Department of ENT, Vardhmaan Institute of Medical Sciences, Pawapuri, Nalanda, Bihar, INDIA.
Email: anshu19802202@gmail.com, satish.kum07@gmail.com

Abstract

Background: Epistaxis is one of the most common medical emergencies. Various etiological factors contributed to epistaxis like infections, trauma, malignancies and systemic disorders (Hypertension, Bleeding disorders, coagulopathy etc.). Epistaxis is managed by medical and surgical treatments. Present study was conducted to study associated factors and outcomes of management of epistaxis. **Aim and Objective:** To study the factors associated and outcomes of management of epistaxis at tertiary health care centre. **Methodology:** Present Study was conducted in 100 patients of Epistaxis. Data collection was done with pretested questionnaire. Data included socio demographic data, detailed history, clinical examination and laboratory investigations. Patients were treated by medical management and surgical interventions. Data was analysed for treatment outcome with appropriate statistical tests. **Result:** Mean age of the patients in present study was 38.43± 4.5 years. Male predominance (68%) was observed in patients. Most common cause of epistaxis was trauma (35%) followed by hypertension (28%). Out of 100 patients 78 patients were treated by medical management and 22 by surgical interventions. All surgical interventions were 100% successful without any complications.
Key Word: epistaxis.

[*]**Address for Correspondence:**
Dr. Anshu Kumar, Senior Resident, Department of ENT, Vardhmaan Institute of Medical Sciences, Pawapuri, Nalanda, Bihar, INDIA.
Email: anshu19802202@gmail.com
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INTRODUCTION

Epistaxis by definition is bleeding through the nose and is one of the most common emergency conditions in otorhinolaryngology. About 60% of people experience the episode at least once in life time.[1,2] Epistaxis can be classified as either anterior or posterior. Anterior epistaxis is bleeding from a source anterior to the plane of piriform aperture and posterior epistaxis from a site posterior to it. Bleeding is profuse in posterior epistaxis, because of larger vessels like sphenopalatine artery. Epistaxis is most commonly observed in children and elderly persons. In elderly person posterior epistaxis is more common because of fragile vessels due to hypertension and atherosclerosis. The most common cause of epistaxis was trauma followed by hypertension and infection of sinus in different previous studies.[3,4] The management of epistaxis includes both conservative and surgical modalities Conservative management includes cauterization of bleeding site, anterior nasal packing (ANP) and posterior nasal packing. Surgical approaches include arterial ligation techniques (endoscopic sphenopalatine artery ligation, maxillary artery ligation, external carotid artery ligation, anterior/posterior ethmoid artery ligation), nasal septal surgery (septoplasty or SMR), arterial embolization etc.[5] Present study was aimed at finding factors associated and outcomes of management of epistaxis at tertiary health care centre.

MATERIAL AND METHODS

Present study was conducted in otorhinolaryngology department of a tertiary health care centre. Study population included patients with epistaxis. Total 100 patients were studied over a period of six months. **Inclusion criteria:** 1. Patients diagnosed with epistaxis 2. Patients willing to participate in study. **Exclusion criteria:** 1. Patients with severe life-threatening events like myocardial infarction. 2. Patients with severe trauma and

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who died before initial assessment 3. Patients not willing to participate. Study was approved by ethical committee. A valid written consent was taken from the patients after explaining study to them. Data was collected using pretested valid questionnaire. Data collection included sociodemographic data, detailed clinical history, physical examination and laboratory investigations. Those patients presented to casuality, priority was given to arrest the bleeding and to improve the general condition of the patient. Bleeding was controlled. Suction of the nasal cavity done. Nasal endoscopy was done to localise the site of bleeding. If the bleeding site could be located, it was cauterized. If the site was not localised and the patient presented with anterior epistaxis, anterior nasal packing was done with vaseline ribbon gauze or merocel packs. In cases of continued bleeding or posterior epistaxis or both, post nasal packing with Foley's catheter was done. Once the bleeding was controlled, detailed clinical history and examination, and necessary investigations were done. To assess the severity of epistaxis, blood loss was graded as Minimal (blood loss less than 50 cc and Hb is normal), Moderate (blood loss is more than 51 cc to 100 cc and Hb not less than 10 mg%.), and severe (blood loss more than 100 cc and Hb less than 10 mg%). Patients were managed with medical treatment such as nasal packing and cauterisation. Those patients who require surgical interventions underwent artery ligations and open reduction and internal fixation. Patient followed up after one week and then after 1 monthly for 3 months. Data was analysed with appropriate statistical tests.

RESULTS

Mean age of the patients in present study was 38.43± 4.5 years. Age of the patient ranged from 5 years to 81 years. Out of total 100 patients 68 were males and 32 were females. Figure 1 showed distribution of epistaxis patients according to etiological factors. Most common cause of epistaxis was trauma (35%). Trauma ranged from nose picking to road traffic accidents. Mostly trauma was due to road traffic accidents. Second most common cause for epistaxis was hypertension (28%). Mainly it was observed in elderly persons. Other causes were idiopathic (13%), infections of nose (8%), various neoplasms (8%). Bleeding disorder was observed in one patient. Chronic liver disease patients were 2 in number. Table 1 showed distribution of patients according to treatment modality. 78 patients were treated by medical management. Cautarization was done in 25 % patients. Anterior nasal packing was done in 38% patients while elderly hypertensive patients presented with posterior bleeding were treated with posterior nasal packing (4%). Surgical interventions were needed in 22 % patients. Most common was rhinosporidium excision in 5% patients and FESS in 5% patients. Other surgical interventions were JNA Excision (3%), hemangioma excision (2%), inverted papilloma excision (2%), ESPAC (2%) and nasal bone reduction (3%). In medical treatment all patients relieved from nasal bleeding. Those failed were treated by surgical intervention. Injection Vitamin K was required in 5% cases and was given for an average duration of 3 days while Tranexamic acid was given in 7% cases for an average duration of 4 days. Decongestant drops were prescribed for 16% cases. Other drugs given were anti-histaminics and antibiotics. Cautarization was successful in 100% patients. Patients with hypertension were treated with antihypertensive drugs. They were followed up for controlled blood pressure and continued treatment for preventing such episodes in future. Table 2 showed success rate in surgical interventions. All surgical interventions were 100% successful without any complications.

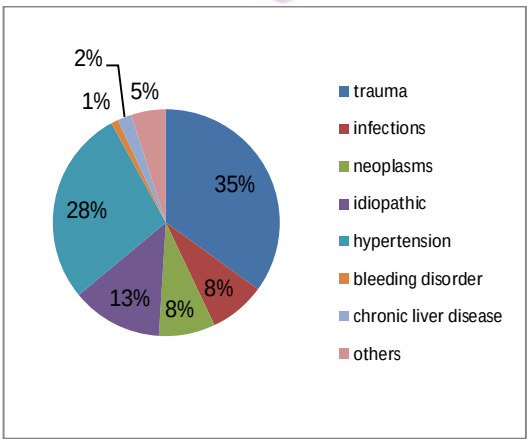

Figure 1: Distribution of patients according to etiological factors

Table 1: Distribution of patients according to treatment modality in epistaxis patients

Treatment		No of patients	%
Medical treatment	Medical	11	11%
	Cautarization	25	25%
	Anterior nasal packing	38	38%
	Posterior nasal packing	04	4%
	Total	78	78%
Surgical treatment	JNA excision	03	3%
	Rhinosporidium excision	05	5%
	Hemangioma excision	02	2%
	FESS	05	5%
	Inverted papilloma excision	02	2%
	Nasal bone reduction	03	3%
	ESPAC	02	2%
	Total	**22**	**100%**

Table 2: Outcome of surgical treatment in patients of epistaxis

Surgery	Tried	Success	Success rate
JNA excision	03	03	100%
Rhinosporidium excision	05	05	100%
Hemangioma excision	02	02	100%
FESS	05	05	100%
Inverted papilloma excision	02	02	100%
Nasal bone reduction	03	03	100%
ESPAC	02	02	100%
Total	**22**	**22**	**100%**

DISCUSSION

Mean age of the patients in present study was 38.43± 4.5 years. Age of the patient ranged from 5 years to 81 years. in accordance with our study Shah *et al* also showed mean age of 32.24±12.54 years (4 to 82 years)[6.] Similar results were seen in Sourabh V *et al* and Phillip AP *et al*.[7,8] In our study out of total 100 patients 68 were males and 32 were females with male to female ratio of 2.1:1. In a study by Shah *et al*, epistaxis was found to affect more males than females with male to female ratio of 1.8:1.14. Jain *et al*[9] also observed a male to female ratio of 2.9:1.12. Similar results were seen in previous studies.[10,11] Most common cause of epistaxis was trauma (35%) followed by hypertension (28%). Similarly, in a study by Juselius *et al*, trauma was most common cause and in a study by Amusa *et al* traumatic epistaxis was observed in 70.9% of cases.[12,13] Out of total 100 patients 78 patients were treated by medical management. Cautarization was done in 25 % patients. Anterior nasal packing was done in 38% and posterior nasal packing in 4%. Similar results were seen in Gilyoma *et al* where anterior and posterior nasal packing was done for 38.5% and 6.7% of his patients.[14] Surgical interventions were needed in 22 % patients. Most common was rhinosporidium excision in 5% patients and FESS in 5% patients. All surgical interventions were 100% successful without any complications. Previous studies showed failure rate ranging from 10% to 52%.[15,16]

CONCLUSION

Epistaxis is most commonly observed in elderly male. It can be managed efficiently with medical and surgical treatment modalities without major complications.

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