

A CLINICAL STUDY OF EPISTAXIS

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Abstract

Background & objectives: Epistaxis is common problem in our country. Epistaxis is an emergency situation which has been received with both ignorance and fear by the general population. Though common it is important to evaluate thoroughly the incidence among general population and various causes and investigations involved in treating the patients thereby relieving them of their symptoms

Method: 50 patients with epistaxis were selected. From all the patients a detailed history was collected and was subjected to various investigational techniques and treatment modalities. These were followed-up till the end of study to assess the efficacy of treatment and there complications.

Results: Of the 50 patients studied, majority of them had either trauma or DNS with spur as cause of epistaxis. Arterial bleeding was more common. Most of the cases 62% were successfully treated by medical therapy only and 38% required surgical therapy.

Conclusion: Epistaxis is a common otolaryngology problem with most of causes being unifactorial in origin. A thorough evaluation by careful examination and routine investigation was enough to identify etiology in most patients. In this study all patients received medical therapy and most were relieved of their symptoms by medical management.

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1. INTRODUCTION

Epistaxis is an alteration of normal hemostasis within the nose. Hemostasis is compromised by mucosal abnormalities, vessel pathology, or disorders of coagulation. Our understanding of the pathophysiology and treatment of epistaxis has increased dramatically over last century.

Majority of epistaxis episodes are merely nuisance to the patient and treated at home. Only a small percentage of patients are seen by medical person. Most patient seeking medical assistance is easily treated and released. A smaller subset of patient with epistaxis will have persistent recurrences, and initiation of treatment to avoid hypotension, hypoxia, anemia, aspiration or death. Recurrent epistaxis may represent occult medical or surgical emergency condition.^[1]

The cause of epistaxis is multifactorial and the method of dealing with this problem have been gradually evolved as a result of a more exact knowledge of the etiopathological process involved and diagnostic methods to know the etiology, by improvements in haemostatic agents and surgical techniques. The present aim of this study is to determine the distribution, precise etiological factors, site and management of epistaxis with relevant investigational difficulties.

2. MATERIALS AND METHODS

This is a cross sectional study of 50 patients aged between 6 to 70 years of either sex. Data for this study was collected from those patients presenting with history of bleeding per nose as a chief complaint from OPD, wards and emergency room and patients referred from other departments for epistaxis were included. Patients refusing consent for investigation, any coagulation profile abnormality (BT, CT, APTT, PT PLATELET COUNT) and evaluation were excluded from study. Statistical analysis: Results will be presented as numbers and percentages subjected for analysis by - Test for proportion- Fisher's exact test.

3. RESULTS

Sixty three patients who presented with epistaxis were studied. Of which 13 patients were excluded from the study because of patients refusing consent for investigation and alteration in coagulation profile.

The observations of 50 patients made during the course of study were as follows.

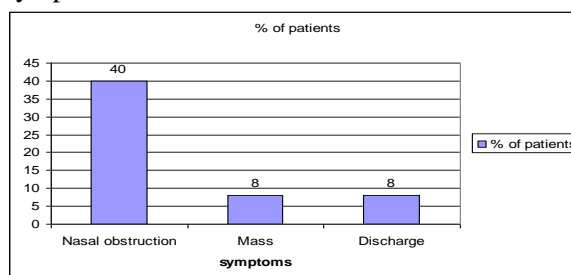
In this study the sex distribution was observed and the observations were as follows, there was a male predominance constituting almost 76% of (i.e. 38) of the total number of patients, females made up only 24% of study. The male: female ratio is approximately 4:1. In this study age distribution was also observed which ranged from 6 yrs to 70 yrs. Our observation is given as follows; the youngest patient was 6 years old and oldest was 70 years as shown in table 1. The peak incidence of epistaxis in this study was in the second and third decade of life whereas the incidence in the extreme ages was comparatively low.

TABLE 1: Age distribution

Age (years)	No. of patients	% of patients
0-10	6	12
11-20	13	26
21-30	12	24
31-40	7	14
41-50	6	12
51-60	3	6
61-70	3	6
71-80	0	0

In this study common associated symptom with epistaxis in patients was found to be nasal obstruction 40%, followed by mass 4% and discharge 4% as shown in chart 1.

CHART 1: Chart showing common associated symptoms.



In this study on enquiring about the precipitating factor for bleeding, in twenty(20) patients (40%) there was no precipitating factor and it was spontaneous, fifteen (30%) of them gave history of injury to nose, twelve (24%) gave reasons such as sneezing, blowing of nose, bending as shown in chart(2). In this study on examination we found about 17 patients (34%) had deviated nasal septum, with about 6 patients having hypertrophied turbinates, 15 patients (30%) had injury to nose, 6 patients(12%) had mass in the nose as shown in chart(3). In this study 60% of the patients, the bleeding was only from the anterior part of nose, while in 18% it was posterior, about 22% of patients had both anterior and posterior bleeding as shown in table 2.

CHART 2: Chart showing precipitating factors.

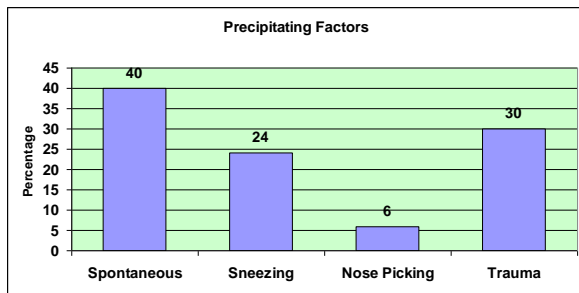


CHART 3: Chart showing findings on examination.

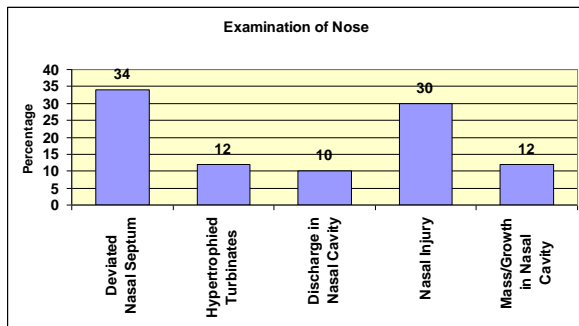


TABLE 2: Area of bleeding.

Bleeding	No. of patients	% of patients
Anterior Bleeding	30	60
Posterior Bleeding	9	18
Both	11	22

In this study nasal septum was the common site of bleeding in nose (32%). This included little's area, lateral wall including the turbinate and their meatus formed 12%, in 24% (12 patients) there was more than one site of bleeding or multiple sites, in 20% (10 patients) the site of bleeding could not be located, due to blood clots / absence of active bleeding as shown in chart (4). In this study source of bleeding was more arterial i.e. about 30 patients (60%), 16% (8 patients) presented with venous bleeding, in 24% (12 patients) it could not be classified due to presence of blood clots and secretions as shown in table 3.

CHART 4: Chart showing sites of bleeding.

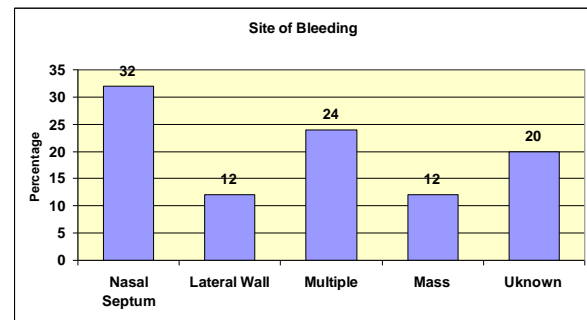


TABLE 3: Source of bleeding

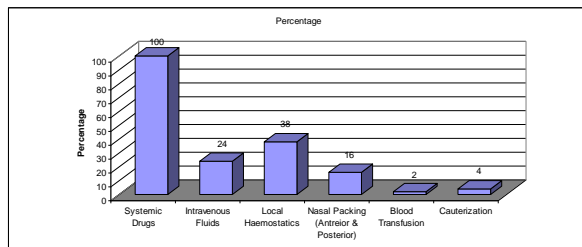
Source of Bleeding	No. of patients	% of patients
Arterial Bleeding	30	60
Venous Bleeding	8	16
Unclassified	12	24

In this study trauma accounted for the highest number of cases of nose bleeding with 36% (18 patients), this included cases of nose picking, nasal bone fractures, Lefort III fractures, head injury. Deviated nasal septum with spur accounted for 16% (8), the neoplasms encountered 6% (3 patients) were case of juvenile nasopharyngeal angiofibroma and carcinoma nasopharynx, two cases each of nasal polyp, foreign body nose and 2 cases of renal disease presented with epistaxis, infections were responsible in 10 % (5) of patients as shown in table 4.

TABLE 4: Etiology (predisposing) factors

Predisposing Cause	No. of patients	% of patients
Trauma	18	36
DNS with spur	8	16
Hypertension	2	4
Infection	5	10
Neoplasms	3	6
Bleeding disorder	1	2
Nasal Polyp	2	4
Renal Disease	2	4
FB Nose	2	4
Idiopathic	6	12
Atrophic Rhinitis	1	2

In this study medical line of treatment was given to all the 50 patients. In addition, 19 patients were treated surgically. Systemic drugs which were administered to all the patients included hemostatics such as injection transemic acid, antibiotics for infection, sedatives such as diazepam. Oxymetazoline and Xylometazoline nasal drops were the commonly used local nasal hemostatics used in 38% (19) patients. Silver nitrate cauterization done in 2 patients, anterior nasal packing done in 7 patients and posterior nasal packing done in one patients making total of 16% as shown in chart (5) and one patient required blood transfusion.

CHART 5: Medical treatment

In this study surgical treatment was given to 19 patients. Correction of septal deviation was done either by submucosal resection (SMR) or septoplasty in 5 patients, excision of mass in the nose was done for nasal polyp and juvenile nasopharyngeal angiofibroma, four patients required reduction and correction of nasal bone fractures as shown in the table (5). Minor surgical procedure like suturing the teared septum and

lacerations in the vestibule, external nose was done in 7 patients

TABLE 5: Surgical treatment

Management Modality (Surgical Line)	No. of patients	% of patients
Septal Surgery	5	10
Mass Excision	3	6
Fracture Reduction	4	8
Others	7	14

In this study complication developed in two patients who had undergone medical treatment and one patient in surgical treatment both of them required anterior nasal packing for 48 hrs.

4. DISCUSSION

In this study as per our data, most of the patients treated required hospitalization. This might be due to the fact that trauma and DNS with spur contributed to majority of bleeding cases which required detailed evaluation with treatment.

The male: female ratio was approximately 4:1 which is slightly higher compared to other reports. In 2005, a study by Chaiyasate.S.etal^[2] had 3:1 and in 2006 Hussain et al^[3] showed 2.15:1.04 as ratio. The male dominance might be due to high cases of trauma and neoplasms in males as seen in study by Akinpelu OV et al^[4].

The age wise distribution of the patients shows that majority, 64% of the patients were between the ages of 11 and 40 years, with a peak incidence in the age of second and third decade as against in study by Sengupta et al⁵, peak was below 20 years and above 40 years and by Iseh et al^[6], peak was between 0-10 years. The youngest patient was 6 years old and oldest was 70 years in our study. However the incidence was low in the older age group in our study.

The most common symptom associated with epistaxis was nasal obstruction. This might be due to DNS, hypertrophied turbinates in nose. The majority of patients 66% of patients had mild nasal bleeding. This type of bleeding was usually

frequent and small in quantity. Patients presenting with moderate and severe type of bleeding were less. Most of the patients 40% complained of spontaneous bleeding without any reason, which might be partly due to ignorance among the patients regarding etiology of epistaxis with 30% giving history of bleeding after trauma.

The most frequent examination findings in the nose were DNS seen in 34 % (17) patients though it was not symptomatic in all. Hypertrophied turbinates was found in about 12% (6) patients. Injury to nose was the next major finding.

Anterior bleeding was common in majority of patients than posterior bleeding, which is in accordance with the studies conducted previously by other workers Hussain et al^[3] and Chaiyasate et al^[2]. Nasal septum was the common site of bleeding in (32%) 16 patients. This is similar to study of Varshney S et al^[1] who noted in approximately 70% of patients. Bleeding from lateral wall was seen in 12% (6 patients) in our study against 26.14% in study by Varshney S et al^[1]. The bleeding site could not be localized in 20% of patients due to absence of active bleeding.

The investigations of blood were done in all the cases. Bleeding time, clotting time, platelet count was useful to detect bleeding diseases. X-ray examination of the paranasal sinus was useful in Nasal polyps, Sinusitis and Nasal neoplasms as shown in the study by Vimpel T et al^[7]. Nasal endoscopy was done in cases mainly to evaluate site of bleeding and in treatment of cases of nasal polyps, nasal neoplasms. This is shown in a study by McGarry GW et al^[8]. CT scan was done in cases of head injury and neoplasms.

In our study trauma was the most common cause of epistaxis in 36% (18 patients), which is higher compared to other studies. There was a greater risk of epistaxis after trauma in a patient with DNS. The next common cause being DNS with spur in 16% (8 patients). Even though DNS was seen in 34% of patients, it was DNS

with spur which gave rise to bleeding either after sneezing or spontaneously. Both anterior and posterior bleeding was encountered in this group. The other major cause of bleeding was infection in 10% (5 patients) and idiopathic origin in 12% (6 patients). Most common infection was Rhinosinusitis, a major etiological factor. In study done by Varshney S et al^[1] in which 35.23% was of idiopathic origin and 19.32% infectious causes. However hypertension formed only 4% of causes, which can be attributed to the fact that most of patients in our study were of younger age group, though other studies by Chaiyasate et al^[2] showed higher percentage. We had 3 cases of neoplasms with 2 cases of malignancy being carcinoma nasal cavity and 1 case of benign juvenile nasopharyngeal angiofibroma, 2 cases of antrochoanal polyp presented with epistaxis. In both cases polyp was long standing. In a study Robson AK et al^[9] described epistaxis as an unusual presentation of antrochoanal polyp. We had 2 cases of renal failure and 2 cases of Foreign Body nose presenting with epistaxis and one case of bleeding disorder and 1 case of atrophic rhinitis.

In our study conservative line of treatment was given to all the 50 patients. Surgical treatment was done to 19 patients. Systemic drugs were administered to all the patients. Antibiotics were administered to cases of Trauma, Infections, nasal polyp, neoplasms and DNS. Local nasal vasoconstrictor drops were employed in cases of mild bleeding especially when it was associated with DNS, hypertrophied turbinate and rhinosinusitis. Kempl GA et al^[10] in his study on the use of oxymetazoline in treatment of epistaxis says that he could manage 65% of his patients with oxymetazoline as the sole therapy. Nasal packing was done in 8 patients (16%) of patients with moderate to severe bleeding. This included cases of trauma, DNS with spur, hypertension. All patients with nasal packs were given prophylactic antibiotics.

Nasal packs were used in 21% of the cases studied by Hara J H^[11].

Blood transfusion was given in severe bleeding in case of trauma. Cauterization was done in 2 patients. Silver nitrate cautery was used in cases of mild to moderate anterior septal bleeding. Thermal cautery was not required for treatment in our study. Toner JG et al^[12] compared the results of electro and chemical cautery in the treatment of epistaxis. He opined that both were equally effective, but since chemical cautery was simple and easier to perform, it was the treatment of choice in simple anterior epistaxis.

In our study 19 patients were treated surgically along with conservative line of management. Septal correction was the commonest surgery. Polyp excision and Juvenile nasopharyngeal angiofibroma excision was next commonly done surgery. Conservative measures included drugs, intravenous fluids, nasal packing and blood transfusion.

Two patients who underwent medical therapy and one in the surgical therapy developed complication which was less than other studies and was insignificant.

CONCLUSIONS

We would like to conclude that in our study epistaxis is more common in younger age group with male predominance, nasal septum as the most common site of bleeding with anterior epistaxis seen frequently in young patients and posterior epistaxis in older patients. In our study most of the cases were relieved of their symptoms by medical treatment. The complications of management were less.

However considering the fact that the study population was small and follow-up period being short, we recommend a study with a larger study population with longer follow up duration to know the changing trends in the evaluation and management of epistaxis.

Conflict of Interest Statement-

There is no conflict of interest.

Informed consent was taken from the patients.

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