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A clinical study of epistaxis

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ABSTRACT

Background: Epistaxis is one the common emergencies in Oto-rhino-laryngology. It may occur in any age and in either gender. Cause of epistaxis range from simple self-limiting condition to more sinister malignancy which needs a radical approach. Hence, one should evaluate these patients appropriately and identify the cause to treat them accordingly. The present work was undertaken with the aim of studying the demographic profile of patients with epistaxis, its causes and management.

Methods: The present study consisted of 60 patients who came with complaint of epistaxis. The patient's detailed history was obtained. Detailed systemic examination and ENT examination was performed on patients in the study. Patients were investigated and treated as per the standard hospital protocol.

Results: Out of the total 60 cases of epistaxis, 65% were males and 35% were females. Most of our cases were aged more than 50 years (31.7%) with mean age of 38.56 years. Most common etiology of epistaxis in present study was hypertension (20%), followed by acute rhino-sinusitis (15%). Commonest cause in children was deviated nasal septum and acute rhinosinusitis while in young adults, trauma was the common cause. Most common cause in elderly was hypertension. Medical management was done in most of the cases (65%) while anterior and posterior packing was done in 20% and 10% cases respectively. Three cases underwent electro-cauterization of bleeding point.

Conclusions: Epistaxis can be seen in any age. However the etiology of this condition varies with age. Understanding of the etiology helps in better evaluation and treatment of the case.

Keywords: Epistaxis, Etiology, Hypertension, Acute rhinosinusitis

INTRODUCTION

Epistaxis is defined as bleeding from the nose. It is the most common oto-rhino-laryngological emergencies worldwide and affects 60% of the population in their life time, though only 6% of them require medical attention. This condition is common in childhood and becomes less in adult life, again showing a peak in 6th decade. Between 70-80% of all cases of epistaxis are idiopathic.¹

Clinical classification of epistaxis is based on the patterns of presentation of epistaxis. It is broadly classified as

either anterior or posterior. Anterior epistaxis is bleeding from a source anterior to the plane of piriform aperture and posterior epistaxis is from vessel posterior to this plane. In general, posterior epistaxis occurs in older patients who have fragile vessels because of hypertension, atherosclerosis, coagulopathies or weakened tissue. Key areas of epistaxis are the Little's area and the 'Woodruff's plexus. Little's area lies in the antero-inferior part of septum supplied by the Kiesselbach plexus which is a common site of anterior epistaxis in children and young adults.² Woodruff's plexus is located on the posterior aspect of the lateral nasal wall just

inferior to the posterior end of inferior turbinate; gives rise to posterior epistaxis in adults.³

Epistaxis results from a multitude of causes, both local and systemic. Common local causes are Trauma, Infections, Foreign bodies, Deviated nasal septum and Neoplasm. General causes are Hypertension, blood dyscrasias, chronic liver disorders, chronic kidney diseases, overuse of salicylates and anticoagulants.²

The management of epistaxis starts with resuscitative measures in conjunction with assessment by history taking and clinical methods. Both conservative and surgical modalities have been used in treatment of epistaxis. Conservative management includes local cauterization of bleeding site, anterior and posterior nasal packing. Surgical approaches include arterial ligation techniques, nasal septal surgery and arterial embolization³.

The present work was undertaken with the aim of studying the demographic profile of patients with epistaxis, its different etiologies and management.

METHODS

This is an observational study was conducted in K S Hegde Hospital, Mangalore, from October 2014 to September 2016, where 60 consecutive patients with complaint of nasal bleeding were studied, after written informed consent. The consent was obtained from the parent if the patient is a minor. Approval from institutional ethics committee was obtained before conducting the study.

The patient's detailed history about the onset, site of epistaxis and any predisposing factors was obtained. Detailed systemic examination and ENT examination performed. Investigations and treatment undertaken was noted. The observations were tabulated and analysed. The results obtained were represented as frequency and percentage.

RESULTS

Out of the total 60 cases of epistaxis, 40 were males and 20 were females (Table 1).

Table 1: Gender distribution of study subjects.

Gender	Number	Percentage (%)
Male	40	65
Females	20	35

Most of our cases were more than 50 years of age (31.7%) with mean age of 38.56 years. Anterior epistaxis was observed in 73.3% cases while in 26.7% cases bleeding were from posterior compartment. Past history of nasal bleeding was given by 23.3% cases, and 18.3% cases were known cases of hypertension. No significant

past history was seen in 58.3% cases. Most common etiology of epistaxis in present study was hypertension (20%), followed by acute rhino-sinusitis (15%). Other common causes included: trauma (10%), septal spur (8.3%), infected polyp (8.3%), nose picking (8.3%), sino-nasal papilloma (5%) and nasopharyngeal carcinoma (5%). No cause was identified in 8.3% cases (Table 2). Commonest cause in children was deviated nasal septum and acute rhinosinusitis; in young adults trauma was the common cause. Most common cause in elderly was hypertension.

Table 2: Etiology of epistaxis in the present study.

Etiology	Cases (n=60)	%
Hypertension	12	20.0
Acute rhino-sinusitis	9	15.0
Trauma	6	10.0
Inflammatory polyp	5	8.3
Septal spur	5	8.3
Nose picking injury of septum	5	8.3
Naso pharyngeal carcinoma	3	5.0
Sino nasal papilloma	3	5.0
Rhino-sporidiosis	2	3.3
Allergic fungal sinusitis	1	1.7
Haemangiomatic polyp	1	1.7
Capillary hemangioma of septum	1	1.7
Alcoholic liver diseases	1	1.7
Drug induced	1	1.7
Idiopathic	5	8.3

Medical management without packing was done in most of the cases (65%) while anterior and posterior packing was given in 20% and 10% cases respectively. Three cases required electro-cauterization of bleeding point (Table 3).

Table 3: Management of epistaxis cases.

Management	Cases (n=60)	%
Medical (without packing)	39	65.0
Anterior/ Posterior Packing	18	30.0
Electrocauterization	3	5.0

DISCUSSION

Epistaxis is estimated to occur in 60% of population worldwide during their lifetime, and about 6% of those with nose bleeds seek medical treatment.⁴⁻⁸ The present hospital based observational study was thus planned to observe the clinical profile of patients with epistaxis, its varied etiologies and management strategies.

In our study, most of the cases were aged more than 50 years (31.7%) followed by 21-30 years of age (20%). The mean age of study participants was 38.56 years. Study of

literature suggests that prevalence of epistaxis is more for children less than 10 years of age and then rises again after the age of 35 years of age.⁸ In a review by Gilyoma et al, epistaxis was found to be more prevalent in the young adults <40 years, which is also in agreement with Eziyi et al.^{9,10} Varshney and Saxena in an Indian study reported most of their patients to be around 40 years.¹¹ In a study by Jain et al. most common age group affected in epistaxis was 31-40 years.¹² In another study by Pandey D et al., ages of patients ranged from 5 year to 72 years, with mode 34 years.¹³ Similar results were also observed by Shah et al, where mean age was 32.24±12.54 years (4 to 82 years).¹⁴ The increased incidence of epistaxis in younger age is because of sports injuries and road traffic accidents due to their aggressive life style. On the other hand, the increased incidence in old age is likely to be due to vascular pathologies, hypertension and malignancy.

In present study, 65% of the cases of epistaxis were males while 35% were females. Generally, males are more affected than females until the age of 50, but after 50, there was no difference between sexes in the literature.^{5,7,8} In a study by Shah et al, epistaxis was found to affect more males than females, with a male to female ratio of 1.8:1.¹⁴ Jain et al also observed that males are affected more than females, with a male to female ratio of 2.9:1.¹² This male preponderance has also been found in other studies.^{15,16}

In present study, we found that anterior epistaxis was more common than posterior (73.3% vs 26.7%). These findings are in tandem with existing literature.^{15,17} Anterior epistaxis arises of damage to Kesselbachs plexus at lower part of anterior nasal septum. Posterior epistaxis arises from damage to posterior nasal septal artery.¹⁸ In a study by Shah et al. anterior epistaxis was more common (69.29%) than posterior type (21.05%).¹⁴

Pandey et al in their study also observed that anterior nasal bleed occurred in 37 of 42 cases.¹³ In a similar study by Jain et al, 92.2% had anterior nasal bleeding, 3.3% had posterior bleeding and the remaining 4.4% patients had non-identifiable bleeding sites.¹²

Past history of nasal bleeding was seen in 23.3% of our cases. About 56% of the cases of epistaxis had a positive history of nasal bleed in a study by shah et al.¹⁴ Past history of bleeding was also given by 55.6% of patients in a study by Bhatta et al.¹⁹ Differences in our findings may be due to such patients having past history of epistaxis and having minimal and infrequent symptoms, may have opted for home based remedial measures of cases with severe disease may have opted for consultation at private hospitals. This could also be due to the relatively small study sample.

Most common etiology of epistaxis in present study was hypertension (20%), followed by acute rhino-sinusitis (15%). Other common causes included: trauma (10%), septal spur (8.3%), polyp (8.3%), injury during picking

nose (8.3%), papilloma (5%), nasopharyngeal carcinoma (5%) and fungal infections (5%). No causes was identified in 8.3% cases. Hypertension being the commonest cause in this study shows epistaxis results from poor blood pressure control. Much greater role has been attributed to hypertensive etiology in epistaxis in Indian, as well as a Thai study.^{11,20} The need for regular blood pressure check-up in epistaxis patients and due address to hypertension is thus emphasized. Chaiyasate et al. reported hypertension to be the commonest cause of epistaxis followed by idiopathic causes.²¹ Varshney and Saxena from India reported that hypertension and arteriosclerosis is the leading cause of epistaxis followed by trauma.¹¹

In a study by Shah et al, most common cause of epistaxis was trauma followed by hypertension.¹⁴ Trauma is the commonest etiology for epistaxis as shown in various other studies of developing countries.^{12,13,18} This trauma varied from minor injury such as digital trauma to nasal injury from road traffic injury. The nose is highly susceptible in craniofacial injury. Most of our patients with epistaxis from trauma were actually victims of RTA. Trauma being a common cause of epistaxis can partly explain the frequency of this problem in males.

The management of epistaxis is summarized as follows: resuscitate the patient, establish the bleeding site, stop the bleeding and treat the cause.¹² Dealing with a patient with active severe epistaxis can be bloody. The universal precautions for all health care personnel involved in the care of these patients is thus recommended. The goal of treatment include: hemostasis, short hospital stay, low complication rate and cost effectiveness.^{14,21} Treatment modalities can be separated as: non-surgical/conservative and surgical/ interventional approaches. Non-surgical approach has been reported to stop the bleeding in more than 80-90% of cases.²¹ In present study medical management was done in most of the cases (65%) while packing was required in 30% cases (20% anterior and 10% posterior). Electro-cauterization was done in 3 (5%) cases. In 39 (65%) cases with medical management, anti-hypertensive drugs were started in 12 patients (30.7%). Injection Vitamin K was required in 5 (12.8%) cases and was given for an average duration of 3 days while Tranexamic acid was required in 6 (15.4%) cases for an average duration of 4 days. Decongestant drops were prescribed for 9 (23%) cases. Other drugs given were anti-histaminics (43.5%) and antibiotics (33.3%).

Anterior nasal packing was done in most patients. Those, requiring posterior packing were all hypertensive cases. As adjunct to nasal packing, the normotensive patients were prescribed nasal decongestants. The packs were soaked in antibiotic for local effect as otherwise infection is likely. Systemic prophylaxis with antibiotic was also provided. When bleeding points were visualized, electrocautery was used successfully, without adverse consequences of septal injury and these patients had shortest hospital stay.

In a study by Pandey et al, essentially, nonsurgical management sufficed to stop bleeding in 39 of 42 cases.¹³ Seventeen of these cases were relieved by complete rest and reassurance. Sixteen cases were managed by anterior nasal packing and 4 were given posterior nasal packing. In 2 cases local electrocautery was used to stop bleeding points. Jain et al. observed that conservative management is a main treatment for epistaxis and effective in 92.2% of cases.¹² Wait and watch, without active intervention to arrest bleeding and anterior nasal packing were most common non-surgical measures accounting for 44.4% and 41.1% respectively. In a study by Shah et al.¹⁴ Anterior and posterior nasal packing was used in 31.57% and 7.9% of patients while Gilyoma et al had used anterior and posterior nasal packing for 38.5% and 6.7% of his patients.²² None of the cases in present study had intractable epistaxis to require arterial ligation or embolization strategies. Blood transfusion too, was not needed in any case. Similar finding was also reported in Iseh Kr et al where no surgical ligation of vessel was required.²³

CONCLUSION

We observed that epistaxis can be seen in any age. However the etiology of this symptom varies with age. Understanding of the etiology helps in better evaluation of the cases. As hypertension is the commonest etiology, regular blood pressure check-up in epistaxis patients and due address to blood pressure control through regular medication is recommended. Most cases can be successfully managed with conservative treatment alone, while some require packing and local cauterization. Non-surgical treatment is still useful to control nasal bleeding and it is safe and cost-effective, keeping surgical intervention as the last option.

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