



Clinico-Aetiological Profile of Adult Epistaxis-Three Years' Experience at a Tertiary Care Centre

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ABSTRACT

Introduction

Epistaxis is the commonest otorhinolaryngological emergency affecting upto 60% of population. The aetiology of epistaxis can be local or systemic. Often it may be difficult to categorize the epistaxis and no clear cause is found; then it is labelled as idiopathic.

Materials And Methods

It was a prospective observational study. All the patients of both gender, age ≥ 18 years with epistaxis without obvious cause coming to the ENT OPD/ Emergency were included in the study. The patient's vitals were recorded and hemodynamical stability was established first. All patients of epistaxis underwent thorough clinical examination and proper history was taken. Measures to stop bleeding included nasal packing, electro/chemical cautery of local area or ligation of sphenopalatine vessels etc. Efforts were made to establish a primal relationship of adult epistaxis with various factors.

Result

There were 97 patients in the study. Male to female ratio was 5.7:1. Majority were above 40 years. The commonest factor associated with epistaxis was Hypertension(38%) followed by idiopathic(21%). Anterior nasal bleeding was present in 71% patients whereas posterior nasal bleeding was there in 29% patients. Non-surgical measures like nasal packing and cauterization were the main intervention methods. Duration of hospital stay was more than 3 days in 73% patients.

Discussion

33.33% of congenital deaf population detected by UNHS belong to the Non High Risk group. Studies across the world suggest at least 50% chance of missing out a congenital deaf child if Universal Neonatal Hearing Screening is not practiced.

Conclusion

Hypertension, blood thinners and trauma were the most common risk factors among the patients in whom aetiology was found although in 21% of the patients, aetiology could not be found. Most cases were successfully managed with conservative (non-surgical) treatment.

Keywords

Epistaxis; Risk Factors

Epistaxis is the commonest otorhinolaryngological emergency affecting upto 60 % of population in their life time.^{1,2} The aetiology of epistaxis can be local or systemic although it may frequently be difficult

to find a definite cause when it is labelled as idiopathic.³

The aetiological profile of epistaxis has been reported to vary with age and anatomical location, e.g. traumatic epistaxis is more common in younger group whereas non traumatic is more common in elderly people due to hypertension, organ failure and administration of blood thinning agents as a treatment for other conditions.

The treatment of epistaxis requires a systematic methodical approach and options vary according to the cause, location and severity of the haemorrhage. Both

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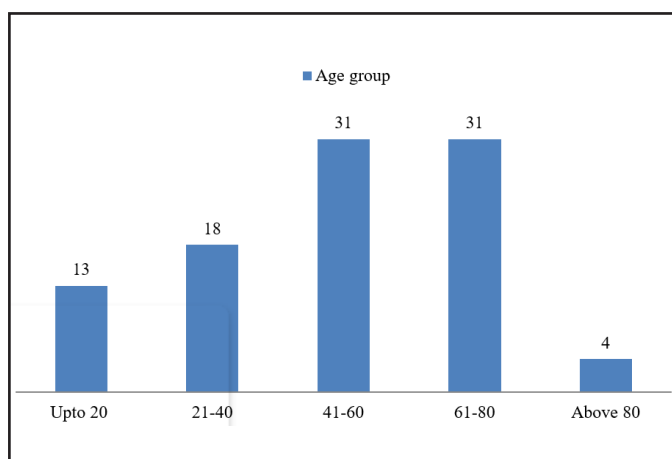


Fig. 1. Age Distribution of patients with epistaxis.

conservative and surgical management have been used. However their outcomes have never been evaluated.

Most of the underlying causes of epistaxis are preventable. By definition, the aetiology of primary epistaxis is unknown but there is evidence that systemic factors may be important, e.g., use of NSAID, alcohol, seasonal variation, hypertension, renal disorders,⁴ coagulation disorders etc.

A population based study done in Brazil concludes non association of hypertension as a causative factor for epistaxis.⁵ Whereas a hospital based study done in Nigeria shows strong association of hypertension and epistaxis.⁶

Many studies have been carried out for understanding clinico-aetiological profile of primary epistaxis but most of the publications fail to classify epistaxis or define the study population. Since studies involve heterogeneous group of patients and different types of epistaxis, comparison becomes difficult. As a result, level I and level II evidence is scarce. Multi centre comparisons of treatment and management strategies do not exist. There is paucity of data; hence basic research is required to identify predisposing and etiological factors in epistaxis.¹

A clear understanding of causes, treatment and outcome of these patients is essential for establishment of preventive strategies as well as treatment guidelines. The results of this study would help to provide a basis for planning of preventive strategies and establishment

of treatment guidelines as well as provide information regarding usefulness of different treatment modalities for epistaxis.

Materials and Methods

It was a prospective observational study. All patients aged 18 years and more with epistaxis presenting to the ENT OPD/ Emergency were included in the study.

The patient's vitals were recorded and stable hemodynamic status ensured. Patients' demographic profile was recorded. All patients of epistaxis underwent thorough clinical examination and proper history was taken. Routine blood investigations and coagulation profile were carried out. Measures to stop bleeding included anterior / posterior nasal packing, electro / chemical cautery of local area or ligation of sphenopalatine vessels etc.^{7,8} Suspected patients underwent imaging to establish a diagnosis. Efforts were made to establish an associative relationship of primary epistaxis with various factors.

Results

Ninety seven patients were included in the study. Amongst them 79 were males (81.44%) and 18 were females (18.56%) with male to female ratio of 5.7:1. Their ages ranged between 18 years and 97 years with patients less than 20 years accounting for 13.4%, 21- 40 years 18.56%, 41-60 years 31.95%, 61-80 years 31.95% and above 80 years 4.12%. (Fig. 1)

Patients who experienced first episode of epistaxis were 40%, second episode were 34%, 3rd episode were 22% and 4th or later episodes were 4%. Epistaxis was bilateral in 61% cases. The commonest cause of epistaxis was Hypertension (38%) followed by idiopathic 21% and blood thinners (14%). (Fig. 2)

Only 1% patients had family history of epistaxis. 36% patients had some kind of addiction like alcohol, tobacco, smoking. None of them had external nasal deformity. At presentation, posterior pharyngeal wall showed active trickling in 55% patients, staining in 27%, 8% patients had profuse bleeding and 10% had it clear. Anterior nasal bleeding was present in 71% patients whereas posterior nasal bleeding was there in 29% patients. Electric and chemical cauterization was

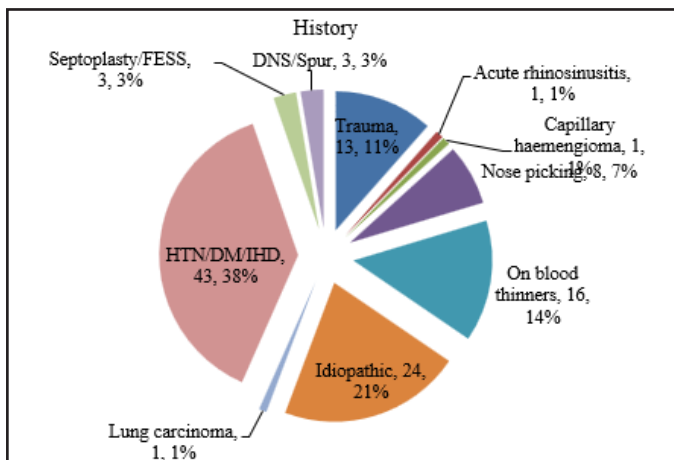


Fig. 2. Aetiological factors associated with epistaxis

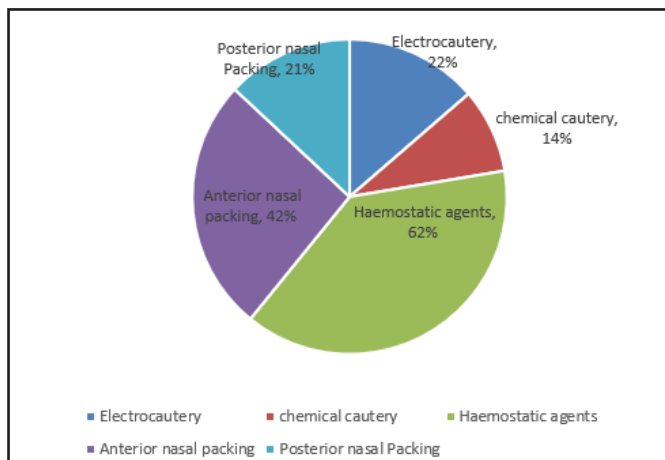


Fig. 3. Conservative modalities of treatment for Epistaxis

done in 22% and 14% patients respectively. Haemostatic agents were given to 62% patients. (Fig. 3) Non-surgical measures were the main intervention methods. One patient required sphenopalatine artery ligation. Anterior nasal packing was done in 42% patients where as 21% patients needed posterior nasal packing which were removed after 48 hours. 4% patients needed repacking. Patients who were treated with nasal packing were given systemic antibiotic till pack removal. Haemoglobin less than 10 was noted in 35% patients. 33% patients had total leucocyte count more than 10000. Elevated creatinine was noted in 8% of patients. PT/APTT was deranged in 16% of patients. Low platelet was there in 12% of patients. Duration of hospital stay was more than 3 days in 73% patients. Blood transfusion was needed in 2% of patients. The different modalities used to treat epistaxis are depicted in Fig. 3.

Discussion

Epistaxis is a reasonably common symptom encountered in our Otorhinolaryngological experience. This study has corroborated the fact that epistaxis is essentially a problem of elderly population and that hypertension plays a considerable role as a causative factor. In this study, epistaxis was found to be more prevalent in the age group of 40 to 80 years, which is similar to Varshney and Saxena.⁷ Contrary to us, Gilyoma et al³ and Eziyi et al⁸ found that younger age group is more affected

with epistaxis, whereas Pallin et al⁹ noticed bimodal distribution of epistaxis. In our study, older age group is commonly affected which may be due to the fact that almost 43% of our patients had associated diseases like hypertension, ischemic heart diseases, diabetes mellitus and many of them were on antiplatelet drugs. Their comorbidities could have caused degenerative changes in blood vessels making them more fragile. These changes cause rupture of blood vessels with pressure changes like straining during micturition and defecation in BPH and constipation respectively; excessive coughing in COPD; and lifting heavy objects.¹⁰

We found male predominance in cases of epistaxis with male to female ratio of 5.7:1. These findings are in accordance with many authors.^{3,7,10,11} Fishpool et al, found that in females, estrogen may have some influence on nasal vasculature which provides protection from epistaxis.¹²

In our study, a large segment of patients (38%), had associated factors like hypertension, ischemic heart diseases, diabetes mellitus and many of them were on blood thinners. These factors are more common in the older age group which is common in our study. Hypertension was a common disease found in the study of Chaiyasate S et al,¹³ where as it was the second common problem in the study done by Varsney and Saxena⁷ and many other authors.^{18,10} It may due to the fact that in developing countries like ours, patients are not motivated to take antihypertensive medications

regularly which is responsible for shooting up of blood pressure and epistaxis. Added to this, hypertension can cause degenerative changes in the arterial musculature which is responsible for prolonged duration of bleeding. The second most common factor is Idiopathic (21%). Similar to us, Gilyoma et al, found idiopathic is the second commonly associated factor.³ In discordance with us, many studies have shown that no cause for epistaxis found in majority of the patients.^{2,7,10} One another common associated factor was trauma which was mainly due to road traffic accidents. Similar to us, Parajuli R found trauma as the third most common associated factor for epistaxis. Many other authors also found that trauma is a common cause of epistaxis.^{3,8} This is because nose is a prominent feature on the face which is highly vulnerable in craniofacial injury. This may be due to the fact that in their studies, a large group of the population is young, who are commonly engaged with outdoor activities and sports activities. In this study, both alcohol and tobacco use were common among the patients reviewed, with 2% identified as smokers, 20% as tobacco users and 14% as alcohol consumers.

The most crucial part of management in such patients is to stabilize the patient and then try and find out the site of bleeding and cause of epistaxis so as to manage it accordingly.¹⁴ Dealing with a patient with active severe epistaxis can be challenging. It is therefore important to try and find out the site of epistaxis so that it can be directly cauterized, which in turn, will ensure haemostasis, shorter hospital stay, lesser complications and cost effectiveness of the method of therapy.^{7,14} In our study, we found that the most common method of managing epistaxis is nonsurgical/conservative. We performed anterior nasal packing in 42% of the cases and nearly half of them required posterior nasal packing to control bleeding. This is because we have large numbers of patients with associated hypertension, ischemic heart disease and diabetes, who present with posterior nasal bleeding. Anterior nasal packing was done with Merocel whereas posterior nasal packing was done with use of balloon Foley catheters. In all these cases we were able to control the bleeding. Urvashi et al reported successful use of anterior nasal packing in 83.5% cases while posterior nasal pack was successful in 95.6% of cases.¹⁵ Nasal packing has the advantage of easy placement and

removal; there is no need for an anaesthetist or theatre space. It is also affordable to the patients. Complications of nasal packing include sinusitis, syncope during insertion of nasal pack, pressure necrosis of the alae nasi, toxic shock syndrome.¹⁵ None of our patients suffered these due to adequate precautions such as the technique of insertion of the pack, use of antibiotics and nasal decongestants. Use of prophylactic antibiotics is controversial but we feel that blood soaked pack, abraded mucosa and blocked ostia of sinuses provide a good culture medium for the bacteria to grow and can cause sinusitis and toxic shock syndrome like situations,¹⁴ hence prophylactic antibody is essential. We removed all nasal packs after 48 hours. 2 hours before pack removal, we injected liquid paraffin into the nose. In our study, 4 patients required repacking. Cauterization in the form of electrical or chemical cautery was carried out in 22% and 14% respectively and it was successful in 92% of the patients which is higher than that reported by Urvashi et al.¹⁵ But this treatment modality is used only when the bleeding point is visible, the patient is cooperative and we have access to the nasal endoscope and cautery. Only one patient in our study needed sphenopalatine artery ligation. It was uncomplicated, but it may be associated with the risks of anaesthesia, blindness, oro-antral fistula, ophthalmoplegia, cosmetic deformity and infra orbital nerve dysfunction. In our study 2% patients required blood transfusion which is far less than that reported in the literature.^{3,7} The mean length of hospital stay in our study was 2.9 days which is lower than that for the others.^{3,8} Patients who underwent local cauterization were found to have a shorter hospital stay than those with nasal packing.

Conclusion

Hypertension, blood thinners and trauma were the most common risk factors among the patients in whom aetiology was found although in 21% of the patients aetiology could not be found. Most cases were successfully managed with conservative (non-surgical) treatment.

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