

Original article:

Study of etio-pathogenesis of different forms of epistaxis:

Observational study

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Abstract:

Introduction: Epistaxis is one of the commonest rhinologic emergencies in E.N.T. units. This is because the nasal mucosa is a part of the body that is influenced by systemic, local, metabolic or hormonal disorders.

Material and methods: A study was conducted in Department of Otorhinolaryngology at St. Stephen's Hospital, on 100 patients with epistaxis . Patients presenting in the ENT OPD or Casualty, or referred from other departments in St. Stephen's hospital, New Delhi. Hundred patients of both sexes and all age groups presenting with epistaxis were included in this study.

Results: As per our study, epistaxis was found to be affecting males than females. Epistaxis usually occurred in population above 50 years of age. Most of the cases presented with bilateral epistaxis followed by unilateral epistaxis.

Conclusion: More than 90% of the cases did not have any coagulation defect or any platelet abnormality. Major cause of epistaxis was found to be hypertension followed by trauma.

Introduction:

Epistaxis is one of the commonest rhinologic emergencies in E.N.T. units. This is because the nasal mucosa is a part of the body that is influenced by systemic, local, metabolic or hormonal disorders. It may present as an emergency or as a chronic problem in recurrent bleeds. Besides being an uncomfortable experience upsetting the patient, it is still a challenge for an otorhinolaryngologist.^{1,2}

Up to 60% of population suffers from nosebleed at some point of their life and 6% out of these seek medical attention. Incidence of epistaxis is more in dry, cold and winter months and has a bimodal distribution, having peaks in 2-10 and 60-80 years age groups.³

The rich vascular supply of nose originates from the ethmoid branches of the internal carotid arteries and the facial and internal maxillary divisions of the external carotid arteries. Besides the complex nature of nasal circulation, epistaxis usually is described as either anterior or posterior bleeding. This simple distinction provides a useful basis for management. Anterior epistaxis is more common in early age group originating from either arterial (Keisselbach's area) or venous (retrocolumellar vein). Posterior epistaxis is more common in elderly people with unknown pathogenesis. Woodruff's plexus is associated with this type of epistaxis.⁴ Posterior epistaxis generally arises from the posterior nasal cavity via branches of the sphenopalatine arteries.⁵ Such bleeding usually occurs behind the posterior portion of the middle turbinate or at the posterior

superior roof of the nasal cavity.

Material and methods:

A study was conducted in Department of Otorhinolaryngology at St. Stephen's Hospital, on 100 patients with epistaxis

Type of study: Descriptive study

Patients presenting in the ENT OPD or Casualty, or referred from other departments in St. Stephen's hospital, New Delhi.

Inclusion criteria

Hundred patients of both sexes and all age groups presenting with epistaxis were included in this study.

Exclusion criteria

Patients presenting with epistaxis resulting from recent nasal or paranasal sinus surgery were excluded from this study.

1. Patients were informed regarding the method of treatment and a written and informed consent duly signed by them was taken.
2. A detailed history was asked, especially history of trauma/fever/sore-throat/foreign body insertion/nose picking/drug intake/bleeding diathesis/hypertension/other illnesses.

Results:

Patients from all age groups were included in this study. The mean age was 44.27 years of age. Median came to be 45 years of age and mode was 60 years of age. Maximum patients were above 50 years. Total number of patients above 60 years of age were 24 % ($n=24$). The number of patients between 51-60 years of age were 18% ($n=18$). The number of patients between 41-50 years of age were 16% ($n=16$). The lowest number of patients were in the age group 10- 20 years which consisted of 8% ($n=8$).

Out of 100 patients 32% ($n=32$) were females and 68% ($n=68$) were males. P value came to be 1, which is not significant. (Table 2, Figure 2).

Table 1: sex-wise distribution of patients

SEX	Frequency	Percent
Female	32	32%
Male	68	68%
Total	100	100%

p value= 1

FREQUENCY DISTRIBUTION FOR THE SIDE OF THE BLEED

Table 2: etiology of epistaxis

Diagnosis	Frequency	Percentage
Hypertension	55	55%
Acute Rhinosinusitis	12	12%
Trauma	14	14%
Nil	4	4%
Anti-platelet medications	1	1%
Chronic Liver Disease	1	1%
Dengue	1	1%
Deviated Nasal Septum	1	1%
Deviated Nasal Septum with spur	1	1%
Glanzmann Thrombasthenia	1	1%
Hypertension & Rhinosinusitis	1	1%
Idiopathic Thrombocytic Purpura	2	2%
Pyogenic granuloma	2	2%
Septal spur	1	1%
Thrombocytopenia	1	1%
Nasopharyngitis	1	1%
Vestibulitis	1	1%
Total	100	100%

p = 1

Discussion:

Epistaxis can be defined as any kind of bleeding arising from the nasal mucosa. It is the most common ENT emergency situation. More than 87% of the epistaxis patients seen by the ENT specialist are admitted to the hospital. This high frequency found can be explained by the rich vascularisation of the nose and paranasal sinuses, receiving blood supply from the internal and

external carotid systems⁶⁹.

Although epistaxis may originate from anterior or posterior source but the anterior nasal cavity is the common site. The cause of the bleeding is generally determined by a directed history and physical examination. Both local and systemic processes can have a role in epistaxis.

Usually the nasal bleeding responds to first-aid measures such as compression. In case of no responsiveness to simple measures, the source of the bleeding should be located and treated appropriately. Treatments that might be considered include topical vasoconstriction, chemical cautery, electrocautery, anterior nasal packing, and posterior nasal packing, use of a balloon system and arterial ligation or embolization.^{5,6}

Epistaxis has a prevalence rate of about 10 to 12%. Prevalence of epistaxis in the United States of America lies between 5 – 14%.¹ As far as incidence is concerned, it is present in 30 cases for every 100,000 inhabitants. Peak incidences occur under the age of 10 and over the age of 50 years. It appears to occur in males more than females.^{7,8}

In our study also, incidence was higher in age above 50 years. In our study, maximum incidence was found in age group above 60 years (24%), followed by 10% in age group between 51-60 years, 16% in 41-50 years, 15.0% in 21-30 years and 10% in 31-54 years. In conclusion epistaxis was found to be more in elderly age group. It can be explained as spontaneous epistaxis is more common in the elderly as the nasal mucosa (lining) becomes dry and thin and blood pressure tends to be higher. The elderly are also more prone to prolonged nose bleeds as their blood vessels are less able to constrict and control the bleeding.⁷

Also in our study, overall males were found to be more affected than females. The male and female incidence was 68% and 32% respectively.

In our study systemic causes were found in 63% of cases while 33% of cases were due to local causes.

Our study matched with various studies, like in the study conducted by Holger Juselius, incidence came out to be 42% in females & 58% in males. About 71.4% of the affected were over 50 years of age. The frequency was more in autumn & winter months.⁹ Retrospective study done by Saurabh Varsney and R.K. Saxena, over the period of 2.5 years, showed the incidence of epistaxis to be 0.84%. The maximum patients were in the age group 40 – 50 years. Males had higher incidence i.e. 57.95% than the females who had incidence of 42.05%. Cases were found to be more in autumn and winter months.³ Review of literature also shows the incidence to be higher in age group of more than 40 years.¹⁹⁻²¹ The age range of patients with epistaxis was observed to be almost similar in other national and international literature^{10,11}

Conclusion:

As per our study, epistaxis was found to be affecting males than females. Epistaxis usually occurred in population above 50 years of age. Most of the cases presented with bilateral epistaxis followed by unilateral epistaxis. More than 90% of the cases did not have any coagulation defect or any platelet abnormality. Major cause of epistaxis was found to be hypertension followed by trauma.

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