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Epistaxis in Modern Times: Current Trends and Effective Management Strategies

Dr. Pawan Kumar Mishra, Dr. Mehta Alam, Dr. Kamlesh Chandra

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ABSTRACT

Aims-To study the age & sex distribution, and aetiology, formulate the most suitable management protocol, evaluate our study results, and compare the data with similarly published studies to look for any changing trends.

Material andmethods: This study was conducted at a tertiary teaching hospital. A total of 176 patients were included in whom diagnostic confirmation of epistaxis was done with clinical, radiological, and endoscopic examination. The patients were evaluated based on the various etiological factors and treatment modalities.

Results-Epistaxis was found to be more common in 1st to 3rd decade of life, and more prevalent in males. There are more chances of having epistaxis in winter than in summer and, anterior epistaxis is more frequent than posterior. Trauma and infection are more common in children and young adults, whereas hypertension is the main cause in elderly people.

Conclusion-Although the treatment of epistaxis has not changed much, we found medical management along with nasal packing remains very effective in managing epistaxis, but cauterization is a very efficient and effective method to control epistaxis and required less hospitalization.

Keywords : Epistaxis, Aetiology, Hypertension, Management

I. INTRODUCTION

According to Stedman's medical dictionary, 'epistaxis' term means 'bleeding from the nose'[1]. Although the definition is so simple, it becomes most difficult to treat when it comes as an emergency to otorhinolaryngologists. There are many historical references to epistaxis in literature, and the unique thing about epistaxis is that it can be treated just by pinching the alae of the nose, which is known as the Hippocratic method [2].

Epistaxis is one of the most encountered haemorrhages by Otorhinolaryngologists, as around 60% of the public have an episode of nasal bleeding once in their lifetime while only 6% come to the hospital to get treatment [3]. Epistaxis is the most common otorhinolaryngological emergency, thus a careful evaluation should be done to prevent the potential complications[4], which might lead to morbid outcomes, especially in the older population. It affects all age groups, being common in childhood, the frequency decreases in early adult life, and then again peaks in the sixth decade. There are more chances of having epistaxis during winter than in summer. Depending upon the cause, epistaxis can be classified into primary or secondary epistaxis and, childhood or adult epistaxis[5]. Clinically these classifications are important as the management of each group is different, for primary epistaxis we must look for the actual bleeding site, and in the case of secondary epistaxis, the probable cause is to be identified and treated. Epistaxis in childhood is seldom serious, but the bleeding diathesis should be considered a potential causative factor [6]. Children are mainly susceptible to nose bleeds due to the rich vascular supply to the nasal mucosa and since they develop more upper respiratory tract infections [7]. There has been a significant decrease in hospital admissions and length of hospital stay in patients admitted with epistaxis over the past 20 years [8]. Most patients get relieved just by observation and medical management. Relatively newer techniques, like microwave ablation (MWA), are being used to control posterior epistaxis [9]. Also, topical application of tranexamic acid is associated with minimizing the need for anterior nasal packing and a reduced hospital stay [10,11].Recent studies aimed to evaluate the effects of meteorological factors, like PM_{10} concentration, on epistaxis presentation in children and adults. PM_{10} concentration should be considered an important environmental factor that may influence epistaxis in both children and adults[12].

The study was done to study the pattern and changing trends in the occurrence and management of epistaxis.

II. MATERIAL AND METHODS

This prospective observational study was carried out on all patients who presented with epistaxis at a tertiary teaching hospital in North India from Nov 2020 to Dec 2022. A total of 176

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patients of both sexes and all age groups were taken into the study.

Exclusion criteria:

- Epistaxis as a result of recent septal or paranasal sinus surgery
- Epistaxis due to trauma to the nasal framework, like in road traffic accidents and assault
- Patients not giving consent for the study

Each patient was explained the need and purpose of the study, and written informed consent was taken from the patient, or guardian in case of minors as per standard guidelines. The diagnosis of epistaxis was made on a detailed clinical history, general and otolaryngological examination. Nasal endoscopy was done to look for the local cause and site of bleeding in the nose and nasopharynx; baseline haematological investigations and bleeding profileswere done in each patient. Detailed history was noted in stable patients with mild epistaxis, and the bleeding was managed. In patients presenting with severe nasal bleeding, epistaxis was initially controlled and followed by detailed history taking. This whole data was collected in a performa and data analysed.

III. RESULT

A total of 176 patients were studied, out of which 110 patients (62.50%) were male, while 66 (37.50%) were female with a male-to-female ratio of 1.67. The maximum number of patients (29%) were in the age group 11–20 years and only 2.2% were inthe 71–80 years age group (figure 1). The seasonal variation in the cases of epistaxis was noted, 100(56.81%) patients reported in winters as compared to 76 (43.18%) in summers. Regarding the type of epistaxis, most of the patients, 167(94.89%), were of anterior epistaxis and there were only 9(5.11%) patients who presented with posterior epistaxis (Figure 2). Etiologically, 55(31.25%) patients were of idiopathic nature, followed by hypertension in 40 (22.72%), nose picking in 33 (18.75%), deviated nasal septum in 23 (13.07%) and nasal mass in 9 (5.11%) (Table1).

In this study, maximum patients i.e., 145 (82.38%) had good recovery after observation with medical management or nasal packing (Table 2), in 2 (1.13%) patients cauterization with silver nitrate was found to be very effective and efficient, and these patients required less hospitalization.

IV. DISCUSSION

In this study, out of 176 patients, 110 (62.5%) were male and 66 (37.5%) were female, this male preponderance is in accordance with other studies showing similar results [13,14,15,16]. According to Hussain G et al.'s study on 313 patients, epistaxis was 2 times more common in males than females, which is favourable to our study in which the male to female ratio was 1.67 approximately double and similar to this study [17]. In the present study, out of 176 participants, the mean age of presentation for epistaxis was 26.5 years with the maximum number of patients in the age group 11-20 years 51(29%) and the least number wasinthe age group 71–80 years (2.2%).This is in contrast to other studies [14,15] showing epistaxis to be more frequent in elderly patients with underlying comorbidities. In this study, we found the maximum number of patients of epistaxis in the winter, i.e., 100 (56.8%) followed by summer 76 (43.2%). This in contrast to a study which was conducted by Leena Jain [18] (2015), which showed more cases of epistaxis in the summer season (50%). Purky et al[19] found epistaxis to be more common during the winter and in older patients. Chaaban et al [20] epistaxis 40% lower in the summer months versus winter. Emergency department visits for epistaxis increase with age and appear to be seasonal.According to the type of nasal bleed, the maximum number of patients having anterior epistaxis was 167 (95%) as compared to posterior epistaxis which was found in only 9 (5%). Similar findings were also seen in the study of Juselius H. [17], and Emanuel J M. [21] According to aetiology found in patients of epistaxis, the maximum number of patients were Idiopathic 56 (32%), followed by Hypertension 40 (22.50%) then Nose picking 33 (18.6%). Findings were supported by Hara [22] who found that primary trauma to the nose causes epistaxis in 32.5% of cases. Petruson [7] reported in 28.5% of cases, Razdan U, and Zada R [23] also found fingernail trauma as the commonest cause (75.9%) of epistaxis. Out of the total of 176 patients, the maximum patients 145 (82.3%) got relieved by observation with medical management or nasal packing, while in 60 patients anterior nasal packing was done, in 5 patients posterior nasal packing was done, in 2 patients cautery done, in 25 septoplasty/endoscopic sinus surgery,in 9 patients surgical excision of mass done whilein27 patient more than 1 procedure was used. The findings of our study are supported by the study of Razdan et al [24] and Pollice et al [25] which show most of the cases were treated by medical or conservative treatment.

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V. CONCLUSION

Epistaxis is a common clinical condition encountered by the otorhinolaryngologist. It is prevalent in the 1st to 3rd decade. It is found to be more common in males than females. It occurs frequently in cold and dry climates. The anterior epistaxis is more common than the posterior. Common causes of epistaxis apart from trauma are idiopathic and hypertension. Trauma and infection are more common in children and young adults, whereas hypertension in the elderly. Correct treatment requires knowledge of nasal anatomy, potential risks, and complications of treatment.Although the treatment of epistaxis hasn't changed much, we recommend

(1) At the time of first contact, the clinician should distinguish the patient who requires prompt management from the patient who does not.
(2) The clinician should perform anterior rhinoscopy to identify a source of bleeding after the removal of any blood clot (if present) in cases of epistaxis.
(3) The clinician should perform nasal endoscopy to identify the site of bleeding and guide further management in patients with recurrent epistaxis.
(4) The clinician should educate patients with epistaxis and their caregivers about preventive measures for nosebleeds, home treatment and indications to seek additional medical care.
(5) Endoscopy to examine the nasal cavity and nasopharynx in patients with epistaxis that is difficult to control or when there is concern for unrecognized pathology contributing to epistaxis.
(6) Cauterization is a very efficient and effective method to control epistaxis and these patients required less hospitalization.
(7) Surgical treatment if required should not be delayed as in recurrent epistaxis cases it only increases the patient's hospital visits.

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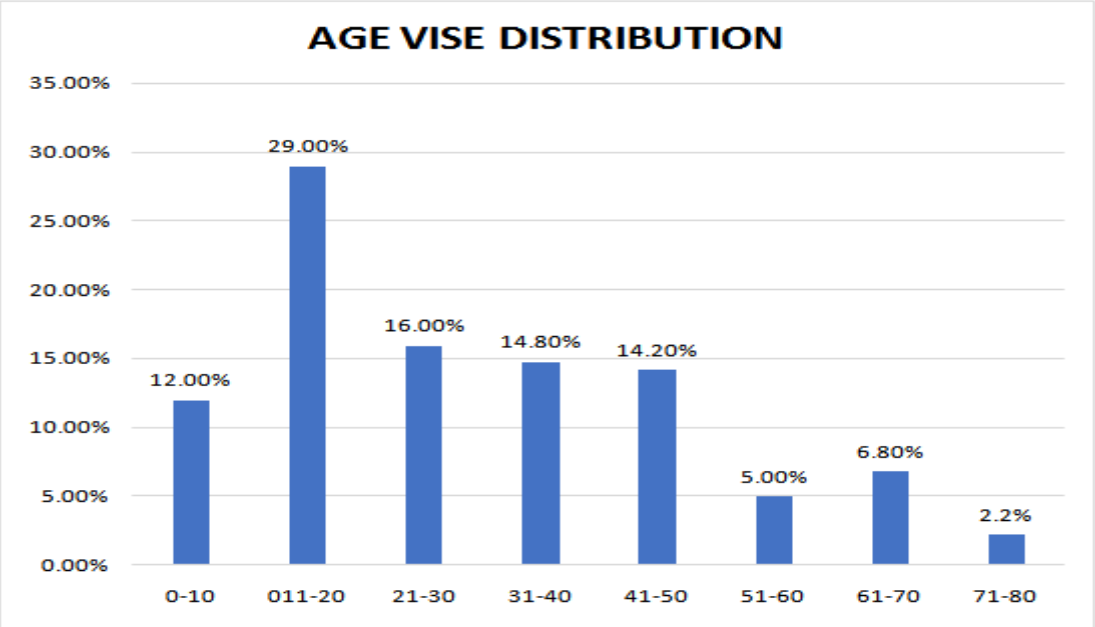

Figure 1- Graphical Representation of Age Distribution

Figure 2-Graphical representation of the type of epistaxis

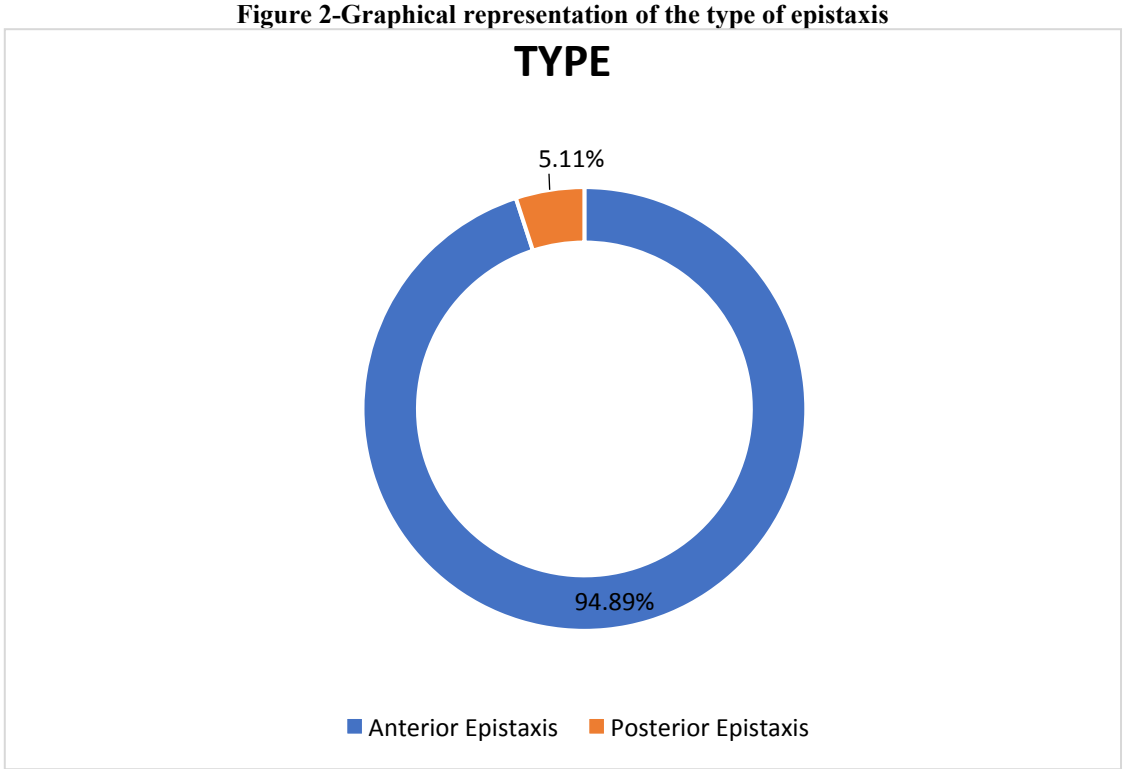

Table 1- Aetiologies of Epistaxis

AETIOLOGY	NUMBER OF PATIENTS
Idiopathic	55 (31.25%)

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Hypertension	40 (22.72%)
Nose picking	33 (18.75%)
Deviated nasal septum	23 (13.07%)
Nasal mass	9 (5.11%)
Dengue	6 (3.41%)
Turbinate hypertrophy	4 (2.27%)
Haemophilia	2 (1.14%)
Fungal sinusitis	2 (1.14%)
Atrophic rhinitis	2 (1.14%)

Table 2- Methods performed in the management of epistaxis

MANAGEMENT	NUMBER OF PATIENTS
Medical management	75 (42.61%)
Anterior nasal packing	60 (34.09%)
Septoplasty/Endoscopic sinus surgery	25 (14.20%)
Surgical excision of mass	9 (5.11%)
Posterior nasal packing	5 (2.84%)
Chemical Cauterization	2 (1.14%)
More than 1 procedure	27 (15.34%)