



ORIGINAL RESEARCH PAPER

Otorhinolaryngology

EPISTAXIS: A STUDY TO DETERMINE ETIOLOGIES AND MANAGEMENT IN A TERTIARY HEALTH CARE UNIT IN KASHMIR, INDIA

KEY WORDS:

Majid Ul Islam Masoodi

Postgraduate, Department of ENT&HNS, Government Medical College, Srinagar

Javaid Naikoo

Postgraduate, Department of ENT&HNS, Government Medical College, Srinagar

Syed Waseem Abbas

Senior Resident, Department of ENT&HNS, Government Medial College, Srinagar

ABSTRACT

Background: Epistaxis is one of the most common medical emergencies worldwide, with almost 60% of the population experiencing it at some point in their life. Our study aimed to understand the etiology and management in OPD and non-surgical IPD settings. **Methods:** Our study consisted of 60 patients presenting with epistaxis over a period of one year in tertiary care setting. Detailed history was taken, followed by formulation, and putting into practice the management methodology. **Results:** Our results showed a male (63.3%) predominance over females (36.7%). Majority of our patients were more than 40 years in age, with 51-60 years (28.4%) being the most common age group. Hypertension, idiopathy, and trauma were the most common etiologies. All the cases were resolved with conservative (non-surgical) methods of treatment. Blood transfusion was required in only one case. **Conclusions:** Epistaxis, although seen at any age, is largely a geriatric problem. Hypertension, idiopathy, and trauma are the most common etiologies. Etiologies vary with age and their understanding leads to better management plans. Conservative methods remain successful in cases without any complications.

INTRODUCTION

Epistaxis, or nosebleed, is a common presenting complaint of emergency rooms and otolaryngological clinics worldwide [1]. Most nosebleeds are benign, self-limiting, and rarely life threatening, but some can be recurrent; and can present challenges in facilities with limited sources of management [2, 3]. The frequency of epistaxis is difficult to determine owing to its resolution with self-treatment leading to no reports [4]. However, several studies suggest the incidence of epistaxis to be around 60% in the general population worldwide, with less than 10% seeking medical attention [4, 5]. Epistaxis shows increased prevalence in children under 10 years of age and this rising trend is seen again after 35 years of age [6]. Generally, males show slightly higher prevalence over females, but only until the age of 50 [6, 7].

Depending on the site of origin (and flow), epistaxis is divided into anterior and posterior epistaxis. Anterior epistaxis occurs as result of damage to the Kiesselbach plexus (near Little's area), where the vessels supplying the mucosa anastomose with each other [2, 8]. Posterior epistaxis occurs because of damage to the posterior nasal septal artery [8]. Anterior nosebleeds are far more prevalent than posterior ones, and account for 80% of the cases [7, 8]. However, posterior nosebleeds generally require medical attention as blood loss usually occurs through throat [7].

In most cases, the etiology of epistaxis remains unknown – known as idiopathic epistaxis [9]. The known etiology of epistaxis can be broadly divided into local and systemic causes [10]. Local causes usually include trauma (induced due to nasal irritation), vascular malformations, nasal septal defects (e.g., deviated nasal septum – DNS); while as bleeding disorders and vascular causes (e.g., hypertension) can be included in the systemic ones [8-10]. Traumatic epistaxis is often seen in population under 30-35 years of age, while as systemic epistaxis (especially vascular) is more characteristic of individuals over the age of 50 [8-10]. Children, especially the ones under 10 years of age, usually experience milder anterior epistaxis while as posterior epistaxis is more frequently seen in the elderly and is likely to be severe [11].

but a structured interdisciplinary approach by the primary care physician or otorhinolaryngologist within the hospital ENT department is required optimal management [12].

The management of epistaxis is complex and varied. Control of hemorrhage, minimizing the length of hospitalization, low complications, and cost effectiveness are the goals of all methods of therapy [13]. Both conservative and surgical treatment modalities have been used in the treatment of epistaxis [8]. Conservative management includes local cauterization of bleeding site, and nasal packing – both anteriorly as well as posteriorly [10]. Surgical methods include arterial ligation, nasal septal surgery, and artery embolization. Anterior nosebleeds are generally managed by compression and gauze, followed by cauterization and application of topical vasoconstrictors (e.g., oxymetazoline, phenylephrine) if bleeding persists. Posterior bleeds are managed by both conservative as well as surgical methods, based on the situation that arises [8, 10].

Our study aims to study the etiology of epistaxis in the local population, and its management for effective recovery.

METHODOLOGY

We conducted an observational study of patients presenting with complaints of epistaxis at Government Medical College, Srinagar from May 2020 to April 2021. A total of 60 patients, both males and females, above 10 years of age were included in this study. Patients with known history of chemotherapy were not included in this study. We recorded a detailed history of each patient including site of epistaxis, onset, and checked for any predisposing factors. The patients were managed based on the severity and type of epistaxis. Fluid resuscitation was done in hemodynamically unstable patient(s).

RESULTS

Of all the 60 patients, 38 (63.3%) were males and 22 (36.7%) were females. Our patients varied from 14 to 76 of age. Maximum patients (17 or 28%) belonged to the age group of 51-60 years, and the least number of patients (5%) were seen in the age groups 11-20 years, and 71-80 years. Detailed distribution has been shown in Table 1.

A multitude of treatment options are available for epistaxis,

Table 1: Age distribution of patients

Age Groups	Number	Percentage
11-20	3	5
21-30	5	8.3
31-40	6	10
41-50	12	20
51-60	17	28.4
61-70	14	23.3
71-80	3	5

We found hypertension as the most common etiology involving 43% of our cases, somewhat closely followed by idiopathic causes (30%). Anticoagulant drugs were the least responsible cause of epistaxis in our study involving only one patient (1.7%). All aetiologies responsible are summarised in Table 2.

Table 2: Causes of Epistaxis (etiology).

Etiology	Number	Percentage
Hypertension	26	43.3
Idiopathic	18	30
Trauma	9	15
Malignancy	4	6.7
Blood dyscrasia	2	3.3
Drugs	1	1.7

Out of 60 patients, 54 (90%) presented with anterior epistaxis while the rest (6 patients) suffered from both anterior and posterior epistaxis.

Our treatment modalities only consisted of non-surgical management including cauterization (chemical and electrical) performed in 22 (36.7%) patients, anterior nasal packing performed in 32 (53.3%) patients, and posterior nasal packing performed in only 6 (10%) patients. One of the patients required blood transfusion. Fluid resuscitation was performed on need basis. No mortality was observed.

DISCUSSION

In our study, we found males to be predominant in developing epistaxis. This is widely relevant to numerous studies worldwide [7, 13, 14]. Additionally, males have been found to be predominantly hypertensive than females in our locales, which would add to this difference [15]. However, we didn't find any significant gap in the gender distribution as ages increased from 45 years, as has been corroborated from separate studies done by Walker et al., and Hill et al. [6, 7]. Most of our patients were more than 40 years of age. Same results were observed by various studies, and this shows that epistaxis is largely a geriatric problem [8, 9, 13, 16].

Our study found hypertension as the most common etiology of epistaxis, followed by idiopathic causes and trauma. The aforementioned etiologies are the major causes of etiologies worldwide, especially in developing countries as has been reported by Varshney et al. [13]. Hypertension has been the major cause of epistaxis in our study which suggests poor hypertensive management. Inadequate management of hypertension leading to epistaxis has been reported in various studies especially in developing countries [13, 17]. Trauma, a leading cause of epistaxis, varies from trauma due to irritation to blunt trauma. Many studies from developing countries have established it as the leading cause of epistaxis, especially in the younger generation [18, 19]. Trauma as a common etiology also explains the predominance of males in the lower age groups having developed epistaxis.

Pandey et al., in their study, observed that anterior nosebleeds occurred in 37 of 42 cases [20]. Similarly, 92% cases of epistaxis in a study performed by Jain et al. had anterior nose bleeding [21]. These findings were in accordance with our findings which showed 90% cases with anterior nose bleeds. Therefore, anterior nose bleeds are more widespread than posterior bleeds, and the latter usually occur rarely and generally in older generations with

comorbidities as was seen in our case. Anterior epistaxis arises because of damage to the Kiesselbach plexus near Little's area, while as posterior epistaxis occurs due to damage to posterior nasal septal artery [8]. Most of our patients with anterior epistaxis showed the involvement of the Little's area which coincides with different studies [2, 8].

We performed anterior nasal packing in majority of our patients. Patients with posterior nosebleeds were subjected to posterior packing, and most of them were hypertensive cases. We soaked the packs in antibiotics for local effects in almost all cases, while systemic antibiotics were provided on need basis. All our cases were resolved with nasal packing, and only one patient was subjected to blood transfusion. Same results were observed by Pandey et al., who reported that non-surgical methods effectively stopped bleeding [22]. In as many as 22 patients, cauterization was performed to effectively stop bleeding. Jain et al. also observed that conservative management is the main and effective way of treating epistaxis, and was found successful in 92% of the cases [23].

None of the aforementioned studies required arterial ligation or embolization strategies, which in conjunction with our study. These studies however did not require blood transfusion at all. Similar findings were also reported in study performed by Iseh et al. where no surgical ligation of vessels nor blood transfusion was required [24].

CONCLUSION

We observed that epistaxis can occur at any age but is largely a geriatric problem. Different age groups have different etiologies, with hypertension, trauma and idiopathy being the most common ones. Epistaxis, both anterior and posterior, are effectively managed by conservative methods of nasal packing and cauterization – especially in OPD settings.

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