

## Epistaxis: Its Incidence in IDPs of North Waziristan Agency

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**Abstract:** The objective of the aforesaid study was to assess the incidence and frequency of Epistaxis in IDPs who migrated to District Bannu from North Waziristan agency during military operation “Zarb-E-Azab”. This study was conducted in ENT department, DHQ teaching hospital Bannu from August 2014 to May 2015. The inclusion criteria was acute epistaxis occurred due to any reason. The exclusion criteria were the natural blood stoppage. The data was collected based on age, gender, causes, type, treatment success rate and the actual need for hospitalization of victims. The results of this study showed that out of 121 patients during 10 months, 72% (87.12) were male patients while rest of the patients i.e. 28% (33.88) were female. The prevalence of epistaxis in male was higher than the female patients. The average age group was 37 years. During the study, the most prevailing cause for the epistaxis was trauma (50.20%) in youngsters which was followed by hypertension (29.30%) in adults. Anterior epistaxis was around 58.20% while posterior one was 22.11%. AgNO<sub>3</sub> cautery (56.45%) was the commonest treatment regimen followed by anterior nasal packing (32.78%). We achieved a success rate of 35% for AgNO<sub>3</sub> cautery and 65% for anterior nasal packing. In cases of acute/persistent epistaxis, where first-aid events have failed and providing a bleeding vessel is visible, cautery with a silver nitrate tipped stick is the treatment of choice. However, where there is profuse bleeding from larger nasal arteries or veins, difficulty is often experienced in curtailing the blood flow and commonly one must resort to electro cautery or tamponade by balloon or packing. Modifying the technique of silver nitrate cautery will result in universal success.

**Key words:** Epistaxis • Electro Cautery • Silver Nitrate Cautery

### INTRODUCTION

Epistaxis, or bleeding from the nose is a rarely life threatening but may cause significant concern, especially among parents of small children [1]. Most nosebleeds are benign, self-limiting and spontaneous, but some can be recurrent. Many uncommon causes are also noted.

Epistaxis can be divided into 2 categories, anterior bleeds and posterior bleeds, on the basis of the site where the bleeding originates. The true prevalence of epistaxis is not known, because most episodes are self-limited and thus are not reported. When medical attention is needed, it is usually because of either the recurrent or severe nature of the problem. Treatment depends on the clinical picture, the experience of the treating physician and the availability of ancillary services [2-6].

More than 90% of bleeds occur anteriorly and arise from Little's area, where the Kiesselbach plexus forms on the septum [7, 8]. The Kiesselbach plexus is where vessels from both the ICA (Anterior and posterior ethmoid arteries) and the ECA (Sphenopalatine and branches of the internal maxillary arteries) converge. These capillary or venous bleeds provide a constant ooze, rather than the profuse pumping of blood observed from an arterial origin. Anterior bleeding may also originate anterior to the inferior turbinate.

Posterior bleeds arise further back in the nasal cavity, are usually more profuse and are often of arterial origin (eg, from branches of the sphenopalatine artery in the posterior nasal cavity or nasopharynx). A posterior source presents a greater risk of airway compromise, aspiration of blood and greater difficulty controlling bleeding.

Causes of epistaxis can be divided into local causes (eg, trauma, mucosal irritation, septal abnormality, inflammatory diseases and tumors), systemic causes (eg, blood dyscrasias, arteriosclerosis, hereditary hemorrhagic telangiectasia) and idiopathic causes. Local trauma is the most common cause, followed by facial trauma, foreign bodies, nasal or sinus infections and prolonged inhalation of dry air. Children usually present with epistaxis due to local irritation or recent upper respiratory infection (URI).

In a retrospective cohort study of 2405 patients with epistaxis (3666 total episodes), Purkey *et al.* [9] used multivariate analysis to identify a series of risk factors for nosebleeds. The likelihood of epistaxis was found to increase in patients with allergic rhinitis, chronic sinusitis, hypertension, hematologic malignancy, coagulopathy, or, as mentioned, hereditary hemorrhagic telangiectasia. The investigators also found increased nosebleeds in association with older age and colder weather.

**Trauma:** Self-induced trauma from repeated nasal picking can cause anterior septal mucosal ulceration and bleeding. This situation is frequently observed in young children. Nasal foreign bodies that cause local trauma (eg, nasogastric and nasotracheal tubes) are responsible for rare cases of epistaxis.

Acute facial and nasal trauma commonly leads to epistaxis. If the bleeding is from minor mucosal laceration, it is usually limited. However, extensive facial trauma can result in severe bleeding requiring nasal packing. In these patients, delayed epistaxis may signal the presence of a traumatic aneurysm.

**Dry Weather:** Low humidity may lead to mucosal irritation. Epistaxis is more prevalent in dry climates and during cold weather due to the dehumidification of the nasal mucosa by home heating systems.

**Drugs:** Topical nasal drugs such as antihistamines and corticosteroids may cause mucosal irritation. Especially when applied directly to the nasal septum instead of the lateral walls, they may cause mild epistaxis. Medications such as nonsteroidal anti-inflammatory drugs (NSAIDs) are also frequently involved.

**Septal Abnormality:** Septal deviations (Deviated Nasal Septum) and spurs may disrupt the normal nasal airflow, leading to dryness and epistaxis. The bleeding sites are usually located anterior to the spurs in most patients. The edges of septal perforations frequently harbor crusting and are common sources of epistaxis.

**Inflammation:** Bacterial, viral and allergic rhinosinusitis causes mucosal inflammation and may lead to epistaxis. Bleeding in these cases is usually minor and frequently manifests as blood-streaked nasal discharge.

Granulomatosis diseases such as sarcoidosis, Wegener granulomatosis, tuberculosis, syphilis and rhinoscleroma often lead to crusting and friable mucosa and may be a cause of recurrent epistaxis. Young infants with gastroesophageal reflux into the nose may have epistaxis secondary to inflammation.

**Tumors:** Benign and malignant tumors can manifest as epistaxis. Affected patients may also present with signs and symptoms of nasal obstruction and rhinosinusitis, often unilateral.

Intranasal rhabdomyosarcoma, although rare, often begins in the nasal, orbital, or sinus area in children. Juvenile nasal angiofibroma in adolescent males may cause severe nasal bleeding as the initial symptom.

**Blood Dyscrasias:** Congenital coagulopathies should be suspected in individuals with a positive family history, easy bruising, or prolonged bleeding from minor trauma or surgery. Examples of congenital bleeding disorders include hemophilia and Von Willebrand disease [6].

Acquired coagulopathies can be primary (Due to the diseases) or secondary (Due to their treatments). Among the more common acquired coagulopathies are thrombocytopenia and liver disease with its consequential reduction in coagulation factors. Even in the absence of liver disease, alcoholism has also been associated with coagulopathy and epistaxis. Oral anticoagulants predispose to epistaxis.

**Vascular Abnormalities:** Arteriosclerotic vascular disease is considered a reason for the higher prevalence of epistaxis in elderly individuals. Hereditary hemorrhagic telangiectasia (HHT; is an autosomal dominant disease associated with recurrent bleeding from vascular anomalies. The condition can affect vessels ranging from capillaries to arteries. Pathologic examination of these lesions reveals a lack of elastic or muscular tissue in the vessel wall. As a result, bleeding can occur easily from minor trauma and tends not to stop spontaneously.

Various organ systems such as the respiratory, gastrointestinal and genitourinary systems may be involved. The epistaxis in these individuals is variable in severity but is almost universally recurrent. Other vascular abnormalities that predispose to epistaxis include vascular neoplasms, aneurysms and endometriosis.

**Migraine:** Children with migraine headaches have a higher incidence of recurrent epistaxis than children without the disease [10]. The Kiesselbach plexus, which is part of the trigeminovascular system, has been implicated in the pathogenesis of migraine [11].

**Hypertension:** The relationship between hypertension and epistaxis is often misunderstood. Patients with epistaxis commonly present with an elevated blood pressure. Epistaxis is more common in hypertensive patients, perhaps owing to vascular fragility from long-standing disease.

Hypertension, however, is rarely a direct cause of epistaxis. More commonly, epistaxis and the associated anxiety cause an acute elevation of blood pressure. Therapy, therefore, should be focused on controlling hemorrhage and reducing anxiety as primary means of blood pressure reduction.

A study by Sarhan and Algarni [12] which included 40 patients with epistaxis and 40 controls, reported that the number of attacks of epistaxis was higher in patients with a history of hypertension, but the investigators were unable to determine whether a definite link existed between nosebleeds and high blood pressure. They did find, however, that control of epistaxis was more difficult in hypertensive patients; patients whose systolic blood pressure was higher at presentation tended to need management with packing, balloon devices, or cauterization.

Excessive coughing causing nasal venous hypertension may be observed in pertussis or cystic fibrosis.

**Idiopathic Causes:** The cause of epistaxis is not always readily identifiable. Approximately 10% of patients with epistaxis have no identifiable causes even after a thorough evaluation [13].

The current study was carried out in order to assess the frequency of the condition in IDPs of North Waziristan agency.

## MATERIALS AND METHODS

The study was conducted in ENT department, DHQ teaching hospital district Bannu from August 2014 to May 2015. Inclusion criteria was acute epistaxis while exclusion criteria was natural blood stoppage. An otolaryngological history and clinical examination was considered. Blood clot in the nasal area was lapped out.

Drenched cotton plugs in 2% lidocaine and 1 ratio 1000 epinephrine were put into the nostrils for about 10 minutes in order to attain anesthesia along with vasoconstriction. Re-examination of the nose was done just after 10 minutes. Cross matching, Hb estimation was done by taking blood samples. Depending upon the severity and lethality of epistaxis, one or more of the following three conservative treatment modalities were used under local anesthesia; silver nitrate cautery (SNC), anterior nasal packing (ANP) or posterior nasal packing (PNP). Initially, patients were treated with SNC, if the bleeding point was visible and unilateral. ANP was done with ribbon gauze impregnated with antibiotic ointment, in those patients where bleeding point was not visible and if the ooze was generalized or bleeding was profuse PNP was done with Folly's catheter, when the ANP did not work in controlling bleeding. Pack was left in for 24-48 hours. Spongoston (Gelfoam) was used in patients with bleeding diathesis, to avoid mucosal trauma associated with nasal packing.

Successful treatment was defined as, no recurrence of bleeding after SNC or removal of pack within one week. All those patients who re-bled after removal of pack, nasal packing was repeated and left for another 36 hours.

## RESULTS AND DISCUSSION

Out of 121 patients of epistaxis during 10 months, 72% (87.12) were male patients while rest of the patients i.e. 28% (33.88) were female. The prevalence of epistaxis in male was higher than the female patients. The average age group was 37 years. During the study, the most prevailing cause for the epistaxis was trauma (50.20%) in youngsters which was followed by hypertension (29.30%) in adults. Anterior epistaxis was around 58.20% while posterior one was 22.11%. AgNO<sub>3</sub> cautery (56.45%) was the commonest treatment regimen followed by anterior nasal packing (32.78%). The results are shown in Fig. 1. Similarly, different parameters are shown in Table 1 including laterality, types and success rate of various treatment modalities.

Our results are according to the studies carried out previously [14-17]. The work of Awen *et al.* [18] showed all the victims belonging to pediatric group. According to some studies, more than 75% of cases of nasal trauma present with epistaxis [19]. Trauma is involved in young age while epistaxis with hypertension was found in adult age in IDPs. Shaheen [20] has reported that it is not the hypertension that causes epistaxis, rather it is the

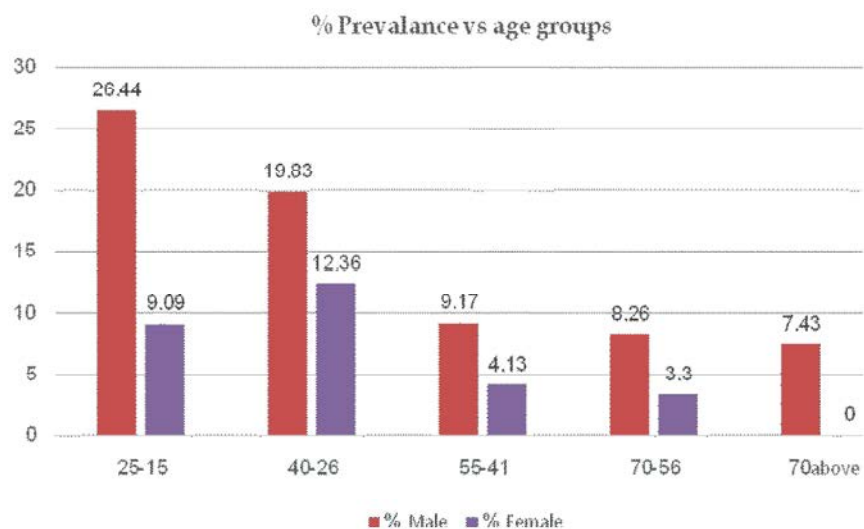


Fig. 1: % prevalence of epistaxis in various age groups of male & female

Table 1: Different parameters of epistaxis in IDPs

Characteristics	No of patients	% age prevalence
Anterior epistaxis	79	65.28
Posterior	27	22.31
Mixed	15	12.39
Total	121	
Unilateral	91	75.20
Bilateral	30	24.79
Total	121	
AgNO <sub>3</sub> cautery	76	62.80
Anterior nasal packing	25	20.66
Posterior nasal packing	14	11.57
Spongoston packing	6	4.95
Total	121	
Success rate in:		
AgNO <sub>3</sub> cautery	35%	
Anterior nasal packing	50%	
Posterior nasal packing	15%	

associated atherosclerosis that results in decreased vascular response to hemostasis and these patients tend to bleed heavily and longer. Our study was limited to small no of patients but study with a larger population might help in understanding the various treatment regimens in management of epistaxis.

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