

## Original Article

# EPISTAXIS: An experience with over 100 cases

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## ABSTRACT

**Objective:** To review and analyze the incidence, causes, management and results of treatment in patients who were treated for nasal bleeding.

**Materials and Methods:** This retrospective descriptive study was conducted on patients of epistaxis, admitted to Combined Military Hospital Multan during a two years period from January 2005 to December 2006. Incidence, sex, age, cause of bleeding, associated clinical features, treatment and results were noted.

**Results:** During the study period, 1366 patients were admitted to hospital with various ENT diseases. Out of these, 109 (7.98%) had epistaxis as one of presenting complaints. Incidence was more in winter and spring months. Out of 109 patients, 76 were males (69.72 %) and 33 females (30.28%). The mean age was  $35.06 \pm 19$  years (range =3-83 years). Mean hospital stay was  $4.98 \pm 4$  days (1-27 days). The most common causes of epistaxis were idiopathic (31.19%), trauma (15.6%), infections (14.68%), hypertension (12.84%), Bleeding disorders and blood dyscrasias (11.01%). Sixty-six patients (60.55%) had anterior and 25 (22.93%) had posterior bleeding, while in remaining bleeding site could not be determined. Eighty-nine (81.66%) patients responded to conservative treatment and in 20 (18.35%) patients some surgical procedures had to be performed.

**Conclusion:** The common causes of epistaxis were idiopathic, trauma, infections, hypertension and bleeding disorders. Most of the cases responded to conservative measures but in some cases surgical treatment had to be done. Further research is required to know about the underlying causes and optimal management of epistaxis. (Rawal Med J 2007;32:142-145).

**Key Words:** Epistaxis, nasal bleeding, nasal trauma, nasal packing.

## INTRODUCTION

Bleeding from nose is a common condition in ENT practice. Almost 60% of population, at some point of their life experience epistaxis and 6% need medical attention.<sup>1</sup> Nasal bleeding has been traditionally attributed to hot weather, but different studies reveal different seasonal variation.<sup>2,3</sup> Epistaxis is a symptom of many diverse conditions. It is important to locate the site of bleeding in the nose, which can be anterior or posterior bleeding. Anterior bleeding is more common and easy to treat. Aim of the treatment is to control the

hemorrhage and prevent the recurrence. It should be cost effective and there should be low complication rate. Treatment can be non surgical or surgical. Non surgical measures include anterior nasal packing, posterior nasal packing, chemical cauterization, electrical cauterization and balloon packing. Surgical procedures include arterial ligation (external carotid, internal maxillary, anterior/posterior ethmoidal), nasal septal reconstruction, and excision of bleeding polyp or growth. This study was undertaken to analyze the incidence, causes, associated clinical features and treatment of epistaxis at our institution.

## PATIENTS AND METHODS

This was a retrospective review of records of the patients who were admitted with the diagnosis of epistaxis, or were admitted with any other diagnosis but were also treated for epistaxis, during a two years from January 2005 to December 2006. Age, associated symptom, medications, month of admission and number of days in hospital were noted. Findings of general physical examination, ENT examination, laboratory investigations, causes of epistaxis, method of treatment adopted, blood transfusions and complications were also evaluated.

## RESULTS

There were 1366 patients were treated for various ENT diseases in the hospital during this period. Out of these, 109 (7.98%) had epistaxis as one of the presenting symptom. Seventy-six (69.72%) were male and 33 (20.28%) were female, with approximate male to female ratio of 2.4:1. Age ranged from 3-83 years with mean age  $35.06 \pm 19$  years.

**Table 1. Associated Clinical features.**

Clinical Features	No of patients	Percent
Nasal bleed	109	100
Trauma	17	15.60
Nasal Blockage	30	27.52
Pain in nose	20	18.35
Nasal discharge	29	26.60
Mass in nose	15	13.76
Deviated nasal septum	26	23.85
Swelling over nose	20	18.35
Fever	8	7.34
Nasal crusting	12	11.01
Ulceration in nose	6	5.50
Septal perforation	7	6.42
Visible bleeding point	51	46.79

Maximum numbers of patients (26.61%) were in age group of 21-30 years (fig 1). Number of cases was more in months of December to April (fig 2). Nasal blockage, discharge and deviated nasal septum were most common associated clinical features in patients with

epistaxis (table 1). Bleeding was unilateral in 85 (77.98%) cases and bilateral in 24 (22.02%). Seventy-four (67.89%) cases had anterior and 32 (29.36%) had posterior bleeding while in 18 (16.51%) cases site of bleeding could not be determined (table 2). In 34 (31.19%) patients no cause of bleeding could be determined. History of trauma was present in 17 (15.60%), infection in 16 (14.67%), high blood pressure in 14 (12.84%) and a bleeding disorder was found in 12 (11.01%) patients (fig 3).

**Table 2. Site of bleeding.**

Site	No of patients	Percent
Anterior	74	67.89
septum	48	44.03
Lateral wall	15	13.76
Floor	11	10.09
Posterior	32	29.36
Septum	15	13.76
Lateral wall	13	11.93
Nasopharynx	4	3.67
Undetermined	18	16.51
* Total exceeds 109 as 15 cases had bilateral bleeding		

Out of 109 patients, 89 (81.66%) patients responded to conservative or non surgical treatment, which included anterior nasal packing, posterior nasal packing chemical cautry and electrocautry. In 20 (18.35%) patients some surgical procedures were performed, which included septal surgery, sinus surgery, electrocautry under general anesthesia and arterial ligation (table 3). In one patient external carotid artery and in another maxillary artery was ligated. Blood transfusion was done in 6 (5.50%) cases. All the patients were discharged after successful treatment with no mortality.

## DISCUSSION

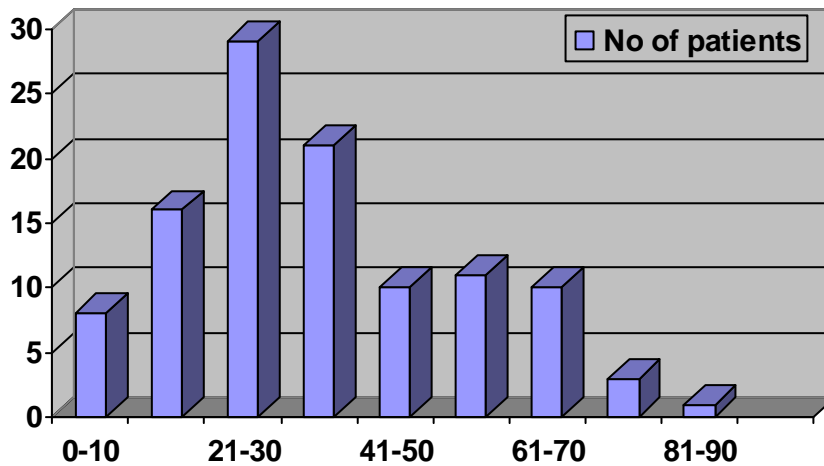
Incidence of epistaxis is more in Caucasian people as compared to Asian.<sup>4</sup> It is more in men as compared to women.<sup>1,5</sup> In our study, male to female ratio was 2.4:1. Cases of epistaxis which need hospital admission are usually adults. In our study means age was 35.06±19 years and maximum cases were in the age group of 20-30 years. This fact differs from previous studies where mean age was more than 10 years higher than our study.<sup>1,5,6</sup>

**Table 3. Various Treatments applied.**

Treatment	No of patients	Percent
Nonsurgical	89	81.66
Anterior nasal packing	49	44.95
P.terior nasal packing	4	3.66
Chemical cauterization	3	2.75
Electric cauterization	27	24.77
Balloon as posterior packing	6	5.50
Surgical	20	18.35
Septal surgery	8	7.34
Arterial ligation	2	1.83
Sinus surgery	3	2.75
Electrocautry under general anesthesia	7	6.42

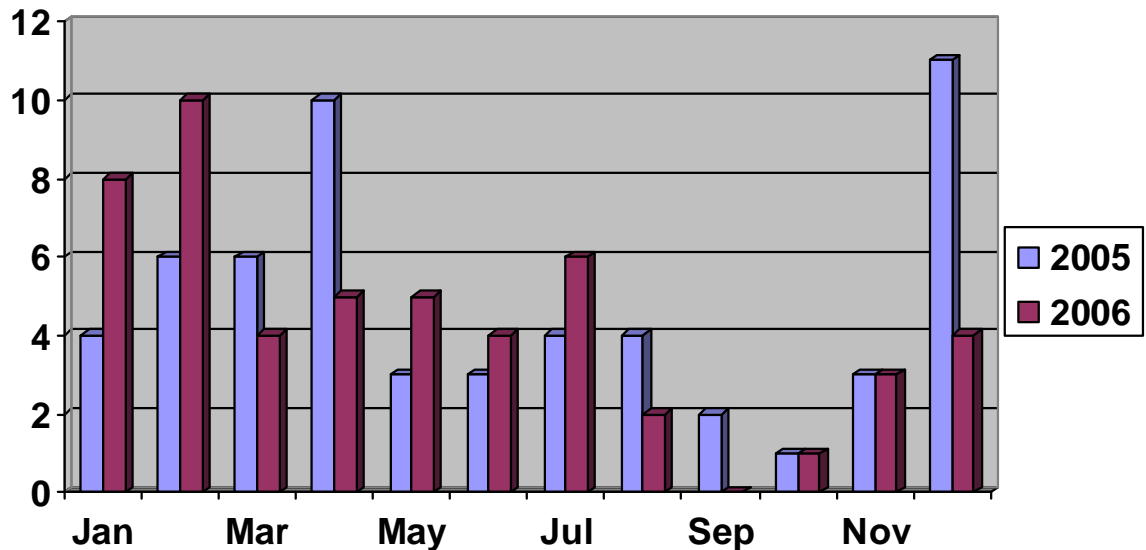
Hypertension may not be the cause for initiation of nasal bleed, but the loss of arterial muscle power to contract may result in persistence of bleeding.<sup>7</sup> In other study, hypertension (12.54%) was leading cause of emergency admissions due to epistaxis in adults, as reported before.<sup>8</sup> Rise in blood pressure may or may not be due to anxiety.<sup>9</sup>

**Fig 1. Age distribution of epistaxis patients.**



Evaluation of epistaxis should include a screen for anemia and coagulopathy but routine CT imaging of the sinuses is unhelpful and is not recommended.<sup>10</sup> Majority of cases can be easily treated with rehydration of the nasal mucosa and silver nitrate therapy especially in children.<sup>11</sup> Out patient treatment is safe logical and economical protocol as compared to mandatory admission after nasal packing.<sup>12</sup>

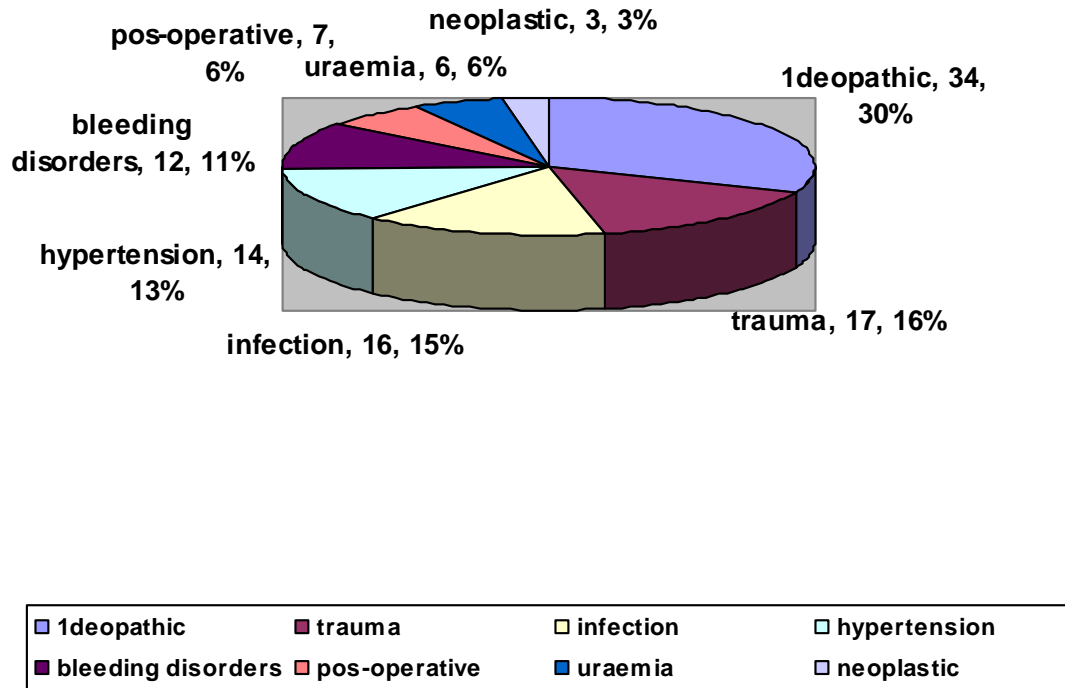
**Fig 2. Seasonal variation of hospital admissions for epistaxis.**



It is very important to locate the bleeding point. Nasal endoscope not only provides better visualization but also offers direct facility of treatment to the area that is not accessible.<sup>13</sup> Posterior nasal packing should be reserved for very urgent reasons, as it causes much discomfort to the patient and may also cause various complications.<sup>14</sup> In our study, the complications noted were eustachian dysfunction, synechia formation and cardiac arrhythmias. Endoscopic ligation of maxillary and sphenopalatine arteries is a safe and effective procedure to control intractable epistaxis.<sup>15</sup> In our study, arterial ligation was done in two cases. In one patient internal maxillary artery was ligated and in the other external carotid ligation was done. Arterial ligation has failure rate of 10-14%.<sup>1</sup>

**Fig 3. Various causes of epistaxis seen in this study.**

## Causes of Epistaxis



Cryosurgery,<sup>16</sup> and laser<sup>17</sup> are other useful techniques for control of bleeding. In our study, only 6 (5.50%) cases required blood transfusion. There was no mortality in this series of cases. Mean hospitalization time in our study was  $4.98 \pm 4$  while the reported mean hospitalization time for patients of epistaxis ranges between 4.67-6.2 days.<sup>1,18,19</sup> In conclusion, common causes of epistaxis were idiopathic, trauma, infections, hypertension and bleeding disorders. Many could be managed conservatively. However, further studies are required to ascertain the underlying causes and optimal management of epistaxis.

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