

A Study of Epistaxis and its Management in a Tertiary Care Hospital

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Abstract

Background: Epistaxis is a common presentation in a primary care setting or emergency room. Anterior nosebleeds, which are more frequent, and posterior nosebleeds (less common, but more likely to require medical attention). 90% of anterior nosebleeds are caused by bleeding in the Kiesselbach's plexus, also called Little's region, on the anterior nasal septum.

Methods: The patients were early evaluated which included the kind and intensity of bleeding, as well as hemodynamic condition. Patient history information was recorded in situations of minimal bleeding and stable patients. When the bleeding was under control in cases of significant bleeding, a history was gathered. Steps were taken to stabilize the patient at the same time as controlling the epistaxis if there were indications of substantial blood loss and/or the patient was in a state of shock. As necessary, blood samples were obtained and submitted for cross-matching, blood grouping, and baseline hemoglobin estimation.

Results: In the current study we found 16% of cases with Rhinosporidiosis and bleeding polyps. Trauma and foreign body, upper respiratory tract infections, and miscellaneous cases (including cases of jaundice, bleeding disorders, and ac polyps) were 14% each and deviated nasal septum, and upper respiratory tract infections were the cause in 12% of cases each. Hypertension was the cause in 8% of cases and atrophic rhinitis in 6% of cases. N=29 cases were managed medically and in the surgical management out of n=21 cases Rhinosporidiosis excision and cauterization were done in n=7 cases followed by Functional Endoscopic Sinus Surgery in n=6 cases the details of the procedures done

Conclusion: The current study found that epistaxis is a common presentation in ENT clinics and management depends on the clinical presentation and availability of resources. The most common etiology was spontaneous bleeding followed by trauma. In the majority of individuals with epistaxis, cauterization, nasal packing, or both can stop the bleeding. Several surgical alternatives are available for those who have significant or recurring bleeding for which medicinal therapy has failed.

Keywords: Epistaxis, Nosebleed, Trauma, Foreign Body, Surgical Management.

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Introduction

It has been estimated that up to 60% of the general population has epistaxis or nose bleeding. The incidence of the disorder has a bimodal distribution, peaking at ages under 10 and beyond 50. Epistaxis seems to affect men more frequently than women. [1-3] The majority of people who have epistaxis do not seek medical assistance, especially if the bleeding is small or self-limited. Massive nasal bleeding, however, can occasionally result in fatalities. [4-6] The ethmoid branches of the internal carotid arteries and the facial and internal maxillary divisions of the external carotid arteries are where the nose's abundant vascular supply comes from. [4] The bleeding commonly originates from the many artery anastomoses of the nasal septum (Kiesselbach's plexus), which are where the majority of cases of epistaxis occur in the front portion of the nose. Typically, branches of the sphenopalatine arteries enter the posterior nasal cavity to cause posterior epistaxis. [7] Such bleeding often occurs at the posterior superior roof of the nasal cavity or behind the posterior part of the middle turbinate. Anterior bleeding is typically clinically evident. While posterior bleeding can be asymptomatic or sneak up on you and cause nausea, hematemesis, anemia, hemoptysis, or melena, these symptoms are not always present. Rarely, bigger veins are implicated in posterior epistaxis, which can cause abrupt, significant bleeding. Epistaxis is referred to as straightforward epistaxis when it may be well treated with conservative methods. Nasal packing, electrocautery, and the use of vasoconstrictive medications are all possible forms of treatment. Intractable epistaxis refers to situations where conservative treatment fails and more intensive intervention is required.

Treatment options for refractory nasal bleeding include posterior nasal packing, vascular ligation, endoscopic surgery, or interventional radiological methods for embolization. The present study was done to examine the various etiopathology of epistaxis and the various therapeutic options and their outcomes.

Material and Methods

This cross-sectional study was conducted in the Department of ENT, Chalmeda Anand Rao Institute of Medical Sciences, Bommakal, Karimnagar, Telangana State. Institutional Ethical approval was obtained for the study. The early evaluation covered the kind and intensity of bleeding, as well as hemodynamic conditions. Patient history information was recorded in situations of minimal bleeding and stable patients. When the bleeding was under control in cases of significant bleeding, a history was gathered. Steps were taken to stabilize the patient at the same time as controlling the epistaxis if there were indications of substantial blood loss and/or the patient was in a state of shock. As necessary, blood samples were obtained and submitted for cross-matching, blood grouping, and baseline hemoglobin estimation.

Further pertinent studies were asked for based on clinical suspicion of a particular etiology. The diagnosis of epistaxis was established using the clinical history, physical exam findings, laboratory and radiographic analyses, endoscopic examination of the nose and nasopharynx under anesthesia, and biopsy. Initially, all patients received conservative therapy, and surgical intervention was only considered if alternative therapies failed to manage epistaxis. Patient demographics, epistaxis etiology, anatomical location of bleeding sites, treatment techniques, the requirement

for blood transfusion, complications, and death were recorded.

Statistical analysis: All the available data was uploaded on an MS Excel spreadsheet and analyzed by SPSS version 21 in windows format. Continuous variables were denoted by mean standard deviation and percentages and categorical variables were denoted by p values and p-values of (<0.05) were considered significant.

Results

The age range of the cases included in the study was from 8 years to 62 years. Males were 76% and females were 24%. The male-to-female ratio was 3:1. The mean age of male cases in the study was 24.5 ± 2.5 years and for females was 30.5 ± 5.5 years. The overall distribution of cases based on age and sex has been depicted in table 1. The most common age group in this cohort was 11 – 20 years with a total of 34% of all cases followed by 0 – 10 years with 16% of all cases this shows that epistaxis commonly occurs in the younger age group.

Table 1: Age-wise and sex-wise distribution of cases in the study

Age	Male	Female	Total (%)
0-10	5	3	8 (16)
11-20	15	2	17 (34)
21-30	5	2	7 (14)
31-40	4	2	6 (12)
41-50	5	1	6 (12)
51-60	3	1	4 (8)
61-70	1	1	2 (4)
Total	38	12	50(100)

In the current study, we found 16% of cases with Rhinosporidiosis and bleeding polyps. Trauma and foreign body, upper respiratory tract infections, and miscellaneous cases (including cases of jaundice, bleeding disorders, and ac polyps) were 14% each

and deviated nasal septum, and upper respiratory tract infections were the cause in 12% of cases each. Hypertension was the cause in 8% of cases and atrophic rhinitis 6% of cases depicted in figure 1.

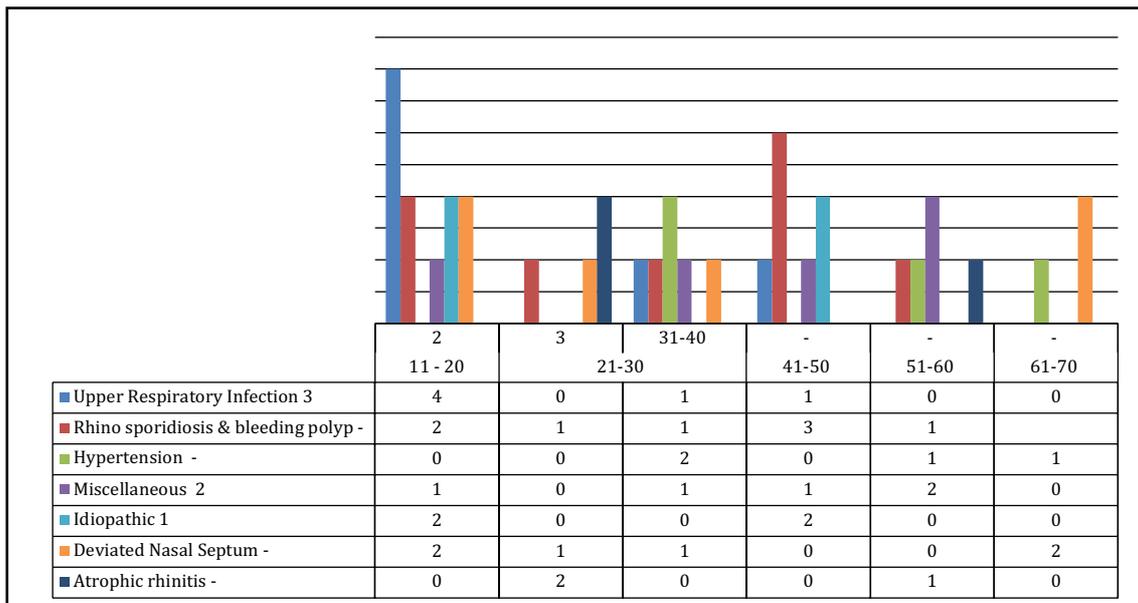


Figure 1: Showing the distribution of cases based on the diagnosis.

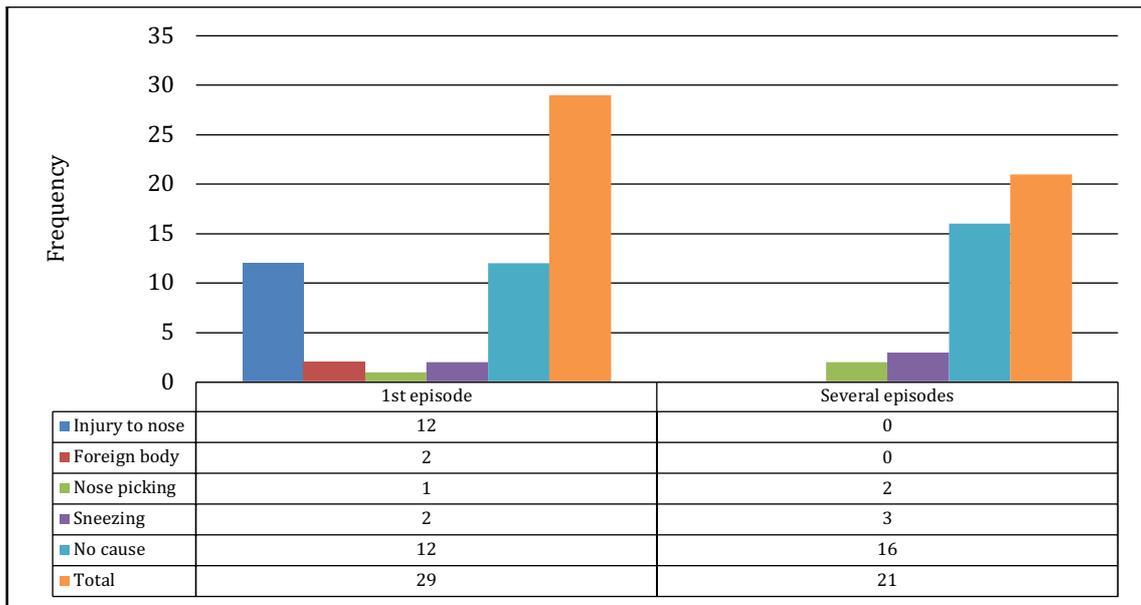


Figure 2: Frequency of episodes of epistaxis recorded in the cases of the study.

In 58% of cases the onset was spontaneous and in 24% of cases, the occurrence of bleeding was after injury to the nose. In 4% of cases, trauma was due to a foreign body. On clinical examination, only n=13 patients had fresh bleeding. In n=15 cases blood clots are present in the nasal cavity. In n=22 cases there was no bleeding when examined. The most common site of bleeding was Little's area which on examination presented with either fresh bleeding or blood clot and congested and engorged vessels. In most of the cases, 58%

of the bleeding was the first episode and in 42% of cases, it was recurrent bleeding details depicted in figure 2.

The nasal cavity's lateral wall caused bleeding in n=13 cases, whereas bleeding from the mass was the cause in n=7 cases. In 5 cases, the visible area of the septum was thought to be the location of bleeding. In n=5 instances, the bleeding has come from the nasopharynx, roof, and posterior region of the nasal cavity, which is all invisible. Two incidents of bleeding in the Woodruff area.

Table 2: Showing the duration of hospitalization and method of management in the cases.

	Frequency	Percentage
Duration of hospitalization		
No hospitalization	19	38.00
1 – 10	26	52.00
11 – 20	3	06.00
21 – 30	2	04.00
Modality of management		
Medical	29	58.00
Medical and Surgical	21	42.00

N=61 cases were hospitalized and 52% of the cases were treated for 1 – 10 days following admission. The duration of treatment was 11 – 20 days for 6% of cases and 21 – 30 days for 4% of cases as depicted

in table 2. In the surgical management of cases out of n=21 cases Rhinosporidiosis excision and cauterization were done in n=7 cases followed by Functional Endoscopic Sinus Surgery in n=6 cases the details of the

procedures done, and frequency has been depicted in figure 3.

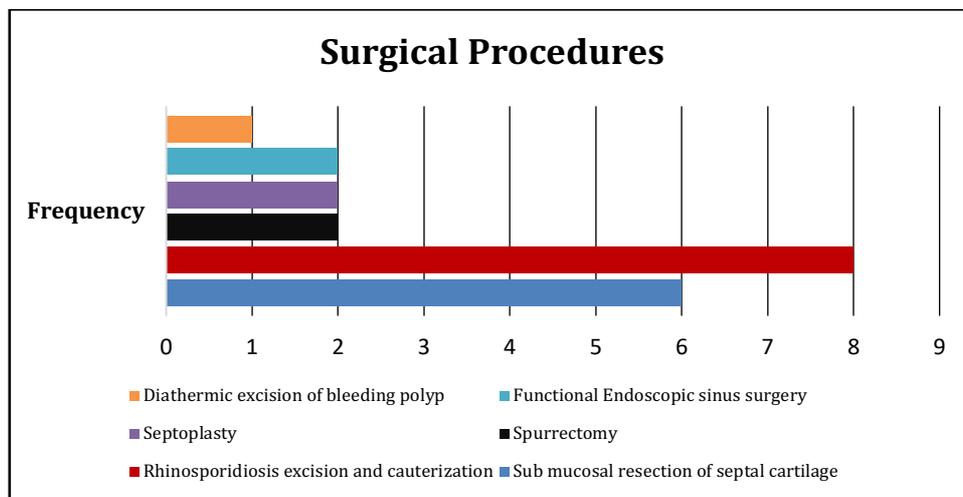


Figure 3: Surgical procedures conducted in the cases of the study.

Discussion

In the current study, we found age range of the cases included in the study was from 8 years to 62 years. Males were 76% and females were 24%. The male-to-female ratio was 3:1. The mean age of male cases in the study was 24.5 ± 2.5 years and for females was 30.5 ± 5.5 years. The aetiological factor of trauma can be used to explain the study's male preponderance. N=8 of the n=12 cases of trauma-related epistaxis involved men. The majority of individuals had histories of violence or traffic accidents. Naturally, the incidence is higher since males participate in these events more frequently. Epistaxis is a symptom that our otolaryngologists see very frequently. Epistaxis can happen to people of any age. Similar findings with a bimodal presentation were seen in our study as well, which is consistent with earlier investigations. [8, 9] Upper respiratory infections are more common in those under 30 and especially in children under 10 years old, where 66% of cases occur in this younger age range. This is caused by untreated chronic diseases of the tonsils, adenoids, and paranasal sinuses as well as poor living and nutritional situations. Trauma was the second most common

cause of epistaxis in 14% of patients. The majority of these instances included either assaults or traffic accidents. N=2 cases were having a foreign body that contributed to the trauma. The greater accident rate is the key factor that may be used to explain the higher occurrence.

The greater accident rate is the key factor that may be used to explain the higher occurrence. Driving rashly and violating traffic laws are factors in this. This is in line with other research conducted in underdeveloped nations, which list trauma as the second most prevalent reason after idiopathic causes. In contrast, the most frequent reason in other investigations was trauma. [8, 10] Seven epistaxis instances were discovered to be hypertensive with high diastolic blood pressure (greater than 90 mm of Hg), which affected how severe the epistaxis was. All of these are older than 35 years. According to research by Herkner H et al., the prevalence of hypertension in individuals with epistaxis ranges from 24% to 64%. [11] A few significant findings from the anterior and posterior rhinoscopy can be used to determine the source of epistaxis. In n=3 cases, the nose's and the paranasal sinuses' outward appearances were irregular, and in n=8 instances, the

septum was misaligned to the right or left. In n=7 instances, the vestibule revealed congestion or infection. In 13 instances, the mucosal membrane had signs of inflammation or congestion; it was pale in n=2 instances; and normal in 68% of instances. Growth or a rhinosporidial mass was present in the nasal cavity in 14% of patients and 12% of patients had turbinate hypertrophy. In n=2 instances, the nasal cavity contained a foreign body. Particularly in children, rhino sinusitis may be a coexisting component that causes increased inflammation, nasal blowing, or maybe digital damage that results in epistaxis. [12] The traditional adage "resuscitate the patient, identify the location of the bleeding, stop the bleeding, and treat the cause of epistaxis" is a good way, to sum up how epistaxis should be treated. The two categories of treatment options are nonsurgical/non-interventional/conservative and surgical/interventional methods. In more than 80–90% of instances, a non-surgical technique has been observed to halt the bleeding. [10] In particular, for small bleeding, silver nitrate can be utilized as a chemical cauterization agent with little discomfort. Cauterization ought to be performed one-sidedly to avoid septal perforation. [14] Similar findings were found in research by Holzmann, which found increased rebleed rates in situations where just the lateral branches of the sphenopalatine artery were blocked. [15] Epistaxis management via AEA ligation is still debatable. The majority of articles demonstrate the utility of this strategy to handle rebleed patients, even though many writers think that this channel, along with the sphenopalatine artery and its branches, should be reached during the first surgery.

Conclusion

Within the limitations of the current study, it can be found that epistaxis is a common presentation in ENT clinics and management depends on the clinical presentation and availability of resources.

The most common etiology was spontaneous bleeding followed by trauma. In the majority of individuals with epistaxis, cauterization, nasal packing, or both can stop the bleeding. Several surgical alternatives are available for those who have significant or recurring bleeding for which medicinal therapy has failed. Patients should be thoroughly monitored for any problems or rebleeding symptoms following surgery or embolization.

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