

Aetiology and management of epistaxis at TU Teaching Hospital

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Background: Epistaxis is a common condition, as well as a frequent otolaryngologic emergency. Up to 60% of people experiencing one episode in their lifetime and 6% seeking medical attention.

Methods: A retrospective study of records of 93 patients admitted in the department of ENT-Head and Neck Surgery of TU Teaching Hospital for the management of epistaxis in between March 2005 and February 2006.

Results: The incidence of epistaxis was found to be in 6.0% of all the ENT patients admitted in the department in this time period. The most common cause / risk factors were hypertension followed by deviated nasal septum. In 24.7% of cases no cause could be found and was labeled as idiopathic. Regarding treatment, 9.7% treated with Chemical cautery, 34.4% anterior nasal packing, 25.8% posterior nasal packing and 2.2% required arterial ligation to control their epistaxis.

Conclusion: Our study shows that epistaxis is also a common emergency. Etiology could be found nearly 75% of cases only which could be preventable. Anterior Nasal Packing was the most common treatment. We should manage a case of epistaxis in an orderly manner.

Key Words: Epistaxis, anterior nasal packing, posterior nasal packing; arterial ligation.

Introduction

Epistaxis is a common condition, as well as a frequent otolaryngologic emergency. Up to 60% of people experiencing one episode in their lifetime and 6% seeking medical attention¹. Simple cases are usually self-limiting and are controlled by external compression of the nose alone, whereas some cases require hospitalization depending upon the severity of bleeding, patient's general condition, underlying pathology, etiology and the modality of treatment required². Many times epistaxis can be managed on an out patient basis.

Treatment of severe epistaxis can encompass different modalities³. Management of epistaxis is directly related to the site of the bleeding⁴. This study was done to analyze the different aspects of epistaxis cases those required hospitalization.

Materials and Methods

Patients admitted in the department of ENT- Head and Neck Surgery of TU Teaching Hospital, Kathmandu, Nepal with

the chief complaint of epistaxis were included in the study. Medical records of such patients (admitted between March 2005 and February 2006) were collected from the record section of TUTH. The records were analyzed to know the incidence, cause/risk factors, and the different types of management needed to control epistaxis. Patients of all ages were included in the study. Data analysis was done by simple mathematical analysis using frequency and percentage to derive the conclusion of the study.

Results

A total of Ninety-three patients were admitted during the study period of one year. The incidence of epistaxis was found to be 60.4 per 1000 ENT admitted patients in the same time period. Males suffered almost twice as compared to females (M:F ratio:: 2.1:1 (Table I)). Most commonly affected age group was patients of more than 60 years. The most common associated factors detected were hypertension (29.0%) followed by deviated nasal septum (9.7%). (Table II). In absence of detectable risk factors, if the reports of basic investigations (Complete blood count, ESR, Bleeding

Epistaxis at TUTH

Table I: Age and sex distribution of epistaxis patients.

Age of the patients (years)	Male	Female	Total	Percentage
Less than 20	14	2	16	17.2
21-30	7	0	7	7.5
31-40	5	2	7	7.5
41-50	8	4	12	12.9
51-60	14	9	23	24.8
More than 60	15	13	28	30.1
Total	63	30	93	100

Table II: Risk factors associated with Epistaxis

Risk factors / causes	No of patients (percentage)
Hypertension	27(29.0)
Deviated Nasal septum	9(9.7)
Trauma	7(7.5)
Angiofibroma	5(5.4)
Septal perforation	4(4.3)
Atrophic rhinitis with Myiasis	3(3.2)
Idiopathic	23(24.7)
Others	14(16.2)
Total	93(100)

Table III: Treatment options of Epistaxis Patients.

Treatment options	No of patients (percentage)
Chemical Cautery	9 (9.7)
Anterior Nasal Packing	32 (34.4)
Posterior Nasal Packing	24 (25.8)
Septal Surgery	8 (8.6)
Closed Reduction of fracture nasal bone	7 (7.5)
Lateral Rhinotomy	5 (5.3)
Removal of Maggots	3 (3.2)
Arterial Ligation	2 (2.2)
Cautery of hemangioma	1 (1.1)
Modified Young's operation	1 (1.1)
Synaechia release	1 (1.1)
Total	93 (100)

profiles, renal function test, Liver function test, Electrolytes, Urine Routine) were normal and then such cases were labeled as idiopathic, which account for 24.7%. Chest X-ray, Electrocardiograph and Echocardiogram as well as Immunological studies were also done if needed.

Analysis of management revealed that the bleeding could be controlled with chemical cautery in 9.7%, whereas 34.4% patient needed anterior nasal packing and 25.8% posterior nasal packing. In 2.2% of patients bleeding could not be controlled with above mentioned procedures and arterial ligation of ipsilateral External carotid as well as Anterior &

Posterior Ethmoidal arteries had to be done (Table III).

Discussion

Epistaxis remains the most common ENT emergency.⁵

The most frequent location of epistaxis in all ages is the anterior one, usually from the Kiesselbach's plexus, located at the Little's area.

Fuchs FD et al in Brazil reported the prevalence of epistaxis to be 14.7% which was higher than our study (6%).⁶ Sinus diseases, cold, nasal allergy, abrupt temperature changes and dry heat produce fragile and hyperemic nasal mucosa which bleeds easily while blowing or picking nose or with very mild trauma leading to anterior epistaxis.⁴

Most cases of epistaxis don't have an easily identifiable cause. Both local and systemic causes can play a role in it.⁷ Christensen NP et al analyzed the causes of epistaxis and found it to be idiopathic in 61.0%, some form of previous nasal surgery in 11.0%, anticoagulants therapy in 9.0%, trauma in 7.0%, and other causes in 12.0%.³ The idiopathic cases were more than our result whereas trauma case are almost equal. Razdan U et al found Idiopathic epistaxis contributing for 16.5% in the indoor and 26.1% in the outdoor cases.⁸ In the same study hypertension as in our study was found as the most common systemic cause for epistaxis among his indoor patients (62.2%) whereas the local cause was found to be Atrophic rhinitis with myiasis (27%) which was minimum in TUTH (3.2%). The other detected local causes detected in our study were deviated nasal septum (9.7%), angiofibroma (5.4%), septal perforation (4.3%), Atrophic rhinitis with myiasis (3.2%), malignant melanoma (2.2%), bleeding nasal polypus (2.2%), post septoplasty (1.1%), post traumatic antral wash (1.1%) and synaechia release (1.1%). Systemic diseases associated with the cases of epistaxis were heart disease (3.2%), diabetes mellitus (2.2%), bronchial asthma (1.1%), chronic renal failure (1.1%), and chronic myeloid leukemia (1.1%).

Vaamonde et al reported association of use of anticoagulants or antiplatelet drugs which was 11.1%.⁹ But we observed no patients with coagulation disorder though one patient had chronic myeloid leukemia. Similarly Thaha MA reported only 8.3 % having abnormal coagulation profile and found that all of the patients with abnormal profile were taking warfarin or a combination of warfarin and aspirin.¹⁰ This study supports the view that there is no role for routine coagulation studies in-patients admitted with epistaxis.¹⁰ However history of use of any anticoagulant or aspirin use must be elicited in all the patients presenting with epistaxis.

Treatment of severe epistaxis can encompass many modalities depending upon its site, severity and etiology.

Treatments to be considered include topical vasoconstriction, chemical cautery, electrocautery, anterior nasal packing (nasal tampon or gauze impregnated with petroleum jelly), posterior gauze packing, use of a balloon system (including a modified Foley catheter), and arterial ligation or selective embolization. Nowadays hemostatic sealant (FloSeal) also is being used to control epistaxis but they are expensive. Hospital admission should be considered for patients with significant comorbid conditions or complications of blood loss.⁷

Treatment and outcome were similar in most of the centers. More than 83.0% of patients responded to packing, balloon placement, local cautery, or a combination therapy.¹¹ In our hospital most of the epistaxis were controlled with anterior and / or posterior nasal packing and chemical cautery. If cause could be detected, a definitive treatment was also undertaken e.g. excision of angiofibroma or reduction of fracture nasal bones. Kucik CJ showed surgical endoscopic cautery as the commonest procedure for controlling epistaxis⁷ which was not performed here.

In another study by Kotecha, approximately 75.0% of the patients required nasal packing and the most common pack used was BIPP (Bismuth Iodoform Paraffin Paste) smeared ribbon gauze. In his study less than 1% of the cases required formal arterial ligation.¹² BIPP was and is being used routinely in our hospital as well for anterior & posterior nasal packing. Nearly double the cases (2.2 %) as compared to Kotecha's patients required arterial ligation in our hospital in the form of ligation of External carotid and Ethmoidal arteries.

Conclusion

Study showed that there is 6.0% incidence of epistaxis in patients admitted in Department of ENT-HNS of TUTH. Hypertension and Trauma were the most common cause/risk factor detected. Anterior Nasal Packing was the most common procedure for treatment. We should manage a case of epistaxis in an orderly manner and every effort should be made to find out the cause before deciding to go to the next modality of management.

References

1. Shaw CB, Wax MK, Wetmore SJ. Epistaxis: a comparison of treatment. *Otolaryngol Head Neck Surg.* 1993 Jun; **109**(1): 60-5.
2. Canivet S, Dufour X, Drouineau J, Desmons-Golher C, Baculard F, Fontanel JP, Klossek JM. Epistaxis and hospitalization: a retrospective observational study over 4 years of 260 patients. *Rev Laryngol Otol Rhinol (Bord).* 2002; **123**(2): 79-88.
3. Christensen NP, Smith DS, Barnwell SL, Wax MK. Arterial embolization in the management of posterior epistaxis. *Otolaryngol Head Neck Surg.* 2005 Nov; **133**(5): 748-53.
4. Randall DA, Freeman SB. Management of anterior and posterior epistaxis. *Am Fam Physician.* 1991 Jun; **43**(6): 2007-14.
5. Holland S, Thaha MA, Nilssen EL, White PS. Coagulation studies in patients admitted with epistaxis—current practice in Scotland. *J Laryngol Otol.* 1999 Dec; **113**(12): 1086-8.
6. Vaamonde Lago P, Lechuga Garcia MR, Minguez Beltran I, Frade Gonzalez C, Soto Varela A, Bartual Magro J, Labella Caballero T. Epistaxis: prospective study on emergency care at the hospital level. *Acta Otorrinolaringol Esp.* 2000 Nov-Dec; **51**(8): 697-702.
7. Kotecha B, Fowler S, Harkness P, Walmsley J, Brown P, Topham J. Management of epistaxis: a national survey. *Ann R Coll Surg Engl.* 1996 Sep; **78**(5): 444-6.
8. Kucik CJ, Clenney T. Management of epistaxis. *Am Fam Physician.* 2005 Jan 15; **71**(2): 305-11.
9. Razdan U, Zada R, Chaturvedi VN. Epistaxis: study of aetiology, site and side of bleeding. *Indian J Med Sci.* 1999 Dec; **53**(12): 545-52.
10. Vaamonde Lago P, Lechuga Garcia MR, Minguez Beltran I, Frade Gonzalez C, Soto Varela A, Bartual Magro J, Labella Caballero T. Epistaxis: prospective study on emergency care at the hospital level. *Acta Otorrinolaringol Esp.* 2000 Nov-Dec; **51**(8): 697-702.
11. Thaha MA, Nilssen EL, Holland S, Love G, White PS. Routine coagulation screening in the management of emergency admission for epistaxis—is it necessary? *J Laryngol Otol.* 2000 Jan; **114**(1): 38-40.
12. Pollice PA, Yoder MG. Epistaxis: a retrospective review of hospitalized patients. *Otolaryngol Head Neck Surg.* 1997 Jul; **117**(1): 49-53.