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Aetiopathology and management of epistaxis in a tertiary Care Hospital

KharumnuidKlonderful[1],PuyamSobita Devi[2], Lido Kamgo[1],
M Madhumangol Singh[3],LoukrakpamSharatchandra Singh[4]

[1]Postgraduate Trainee[2]associate Professor[3]Professor(Department Of Otorhinolaryngology)
[4]Professor (Department Of Medicine), Regional Institute Of Medical Sciences, Imphal, Manipur (India)

Corresponding Author: Puyamsobita Devi
Associate Professor, Department Of Otorhinolaryngology,
Regional Institute Of Medical Sciences, Imphal, Manipur (India)

Abstract
Background: *Epistaxis or nosebleed has a varied aetiopathology. It is one of the common presentations requiring an immediate intervention to prevent from life threatening complications.*
Methods :*A comparative study was done on 152 patients in a tertiary care hospital (Regional Institute Medical Sciences, Imphal, Manipur, India) during the study period of two years from September 2013 to August 2015 using a structured questionnaire along with clinical examination, laboratory investigations for identifying specific aetiology. Efficacy of various modes of conservative management as well surgical intervention was studied.*
Result:*Out of 152 patients studied, incidence of epistaxis was found in 67.76% in maleand 32.23% in female patients respectively. The aetiopathological factor was mostly contributed by local factors (58.5%) followed by systemic factor (32.23%).Anterior nasal packing (ANP) was required in 132 patients (86.8%),Posterior nasal packing (PNP) in 19 patients (12.5%), chemical cautery in 17 patients(11.2%) and electrocautery in 8 patients(5.3%) with success rate of 85.6%,100%, 82.3% and 100% respectively. Chemical and/orelectrocauteryunder endoscopic guidance was used when ANP and PNP failed to control the condition.*
Conclusion: *Epistaxis which is a symptom or sign is more common in male than in female patients and local factors are responsible for majority of it. Most of the patients could be managed conservatively with endoscopy assisted cauterization without requiring any surgical intervention.*
Keywords:*Epistaxis, nasal packing, cauterisation, nasal endoscopy, efficacy, success.*

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I. Introduction

Epistaxis, also known as nosebleed which is a symptom or sign, but not a disease per se isthe most common cause of bleeding in the head and neck region.Haemostasis of nose is compromised by mucosal abnormalities, vascular pathology or disorder of coagulation. It is aresult of either a local or systemic disease of the body.Hippocratesfirst recorded themanagement ofepistaxis in the fifth centuryB.C. Incidence of epistaxis ranges from 7 to 14%[1].60% incidence of atleast one episode of epistaxis during one's lifetime, a 6% incidence requiring medicalattention, andan annual incidence of 15% for men and 9% forwomen was also reported[2].

The nasal cavity is extremely vascular. As for management of epistaxis is concerned, the source and/or cause of bleeding is the mostimportant one to be searchedas anterior epistaxis can be easily controlled by nasal packs.The conservative treatment modes for epistaxis include anterior nasal packing, posterior nasal packing, balloon catheter fixation, chemical cautery and electrocautery. Inposterior epistaxis, the conservative management may not be sufficient to stop bleeding. With the recent advances in endoscopic and microvascular surgery, laser technology and interventional radiology,therhinologists now have an extensive armamentarium to treat the patient with epistaxis. Despitethe myriad of available treatment regimes, the goal is to controlhaemorrhage, minimize the length of hospital stay, reduce complications and cost effectiveness of the treatment. The purpose of the study is to assess the different aetiopathological factors of epistaxis and its mode of clinical presentation and assessing the efficacy of various management modalities i.e.conservative and surgical method(s).

II. Materialsand Methods

A total number of 152 cases of active epistaxis admitted in Regional Institute of Medical sciences,Imphal.

Methods

All the patients admitted with epistaxis were subjected to detailed clinical workup. The site of bleeding was noted as soon as possible. Investigations, namely complete haemogram with the peripheral smear study for abnormal cells, blood glucose estimation, liver function test, kidney function test, electrocardiogram (if indicated) and urine analysis were carried out in allcases. Bleeding time and clotting time were carried out in all patients. Other coagulation studies like prothrombin time including international normalized ratio (INR) and activated partial thromboplastin (APTT) werealso carried out in indicated patients.Radiological evaluation of nose and paranasal sinuses by X-ray paranasal sinus (water's view) was done in most of the cases.WhereasX-ray of nasal bones (lateral view), X-ray chest (PA view), imaging studies like computed tomography of nose, paranasal sinus and nasopharynx and USG of whole abdomen were done in selected cases. Other necessary investigations like histopathological examination of tissue(s), bonemarrow examination, blood examination for malarial parasites and serological test for typhoid fever were done whenever indicated. Serology for HIV, Hepatitis B virus and hepatitis C virus antibody were also carried out on the basis of personaland familyhistory on patients having high risk behavior after having a proper counselling.On the basis of clinical examination andvarious investigations, an attempt was made to identify the aetiopathological factor of epistaxis and classified aslocal, systemic or idiopathic.The modalities of treatment were noted and broadly divided in two groups - conservative and surgical.The efficacy of various treatment modalities for epistaxis carried out in the tertiary care institute werestudied.

III. Result And Analysis

Table 1. Gender distribution ofpatients (n=152)

Sex	Patients	Percentage
Male	103	67.6
Female	49	32.23
Total	152	100

During the study period of two years on 152 patients, male:female ratio was 2:1 (67.76% vs 32.23%) (table 1).

Table 2. Age-wise distribution of epistaxis (n=152)

Age(years)	No. of patients	Percentage (%)
0-10	13	8.5
11-20	14	9.2
21-30	24	15.8
31-40	25	16.5
41-50	25	16.5
51-60	27	17.8
61-70	15	9.8
71 and above	9	5.8
Total	152	100

Epistaxis was most commonly found in the patients having the age group of 31-60 years with the mean age of 41 years. The minimum age of the patient was 3 years and maximum age, 90 years (table 2).

Table 3. Anatomical sites and sub-site(s) of epistaxis (n=152)

Anatomicalsite		Subsite	No. of Patients	%
Septum		Anterior	63	41.45
		Posterior	23	15.13
Lateral wall	anterior	Inferior meatus	3	1.97
		Inferior turbinate	17	11.18
	Posterior	Middle meatus	4	2.6
		Middle turbinate	14	9.2
Floor		Anterior	23	15.13
		posterior	13	8.55
Not identified			16	10.53

Common sites of epistaxis were septum (56.58%), lateral wall of the nose (24.9%) and nasal floor (23.68%) however anterior epistaxis was found in 69.73%, and the exact site of bleeding was not known in 10.53% of the patients (n=152). (table 3)

Table 4. Aetiology of epistaxis (n=152)

Aetiology of epistaxis	Total	Percentage
Local factors 89 58.55%		
Inflammation	46	30.3
Trauma	17	11.2
Deviated Nasal Septum	18	11.8
Nasopharyngeal carcinoma	3	2.0
Haemangioma	1	0.7
Sinonasal polyp	2	1.4
Pleomorphic adenoma	1	0.7
Atrophic rhinitis with myiasis	1	0.7
SYSTEMIC 49 32.23%		
Hypertension	12	30.3
Liver disease	4	7.9
Idiopathic thrombocytopenic purpura	1	2.6

Chronic myeloid leukemia	1	0.7
Von willebrand disease	1	0.7
Aplastic anemia	1	0.7
HIV infection	8	5.3
Hepatitis B	2	1.4
Hepatitis C	5	3.3
Enteric fever	2	1.4
Malaria	1	0.7
Tuberculosis of lungs	2	1.4
Measles	1	0.7
Kidney disease	1	0.7
Systemic lupus erythematosus	1	0.7
Diabetes mellitus	2	1.4
Menarche	1	0.7
Pregnancy associated	2	1.4
IDIOPATHIC	14	9.21
TOTAL	152	100

Local, systemic and idiopathic causes of epistaxis consist of 58.6%, 32.2 % and 9.2% respectively of the study population (table 4).

Table 5.Different modes of treatment of epistaxis (n=152).

Technique of treatment	No. of Patients	%	Success	Failure	Efficacy (%)	'p' value
Non-surgical						
Chemical cautery	17	11.2	14	3	82.3	<0.001
Electrocautery	8	5.3	8	0	100	
Anterior nasal packing	132	86.6	113	19	85.6	
Posterior nasal packing	19	12.5	19	0	100	
Surgical	0	0	0	0	0	

Regarding the treatment of epistaxis, only the conservative methods like nasal packing(s) and cauterization could manage the bleeding with a very high success rate. Endoscopic assisted chemical and/or electrocautery were used in those patients whose epistaxis was not controlled by nasal packing(s). (table 5).

IV. Discussion

Epistaxis is a common emergency problem encountered in rhinology practice. It is a common presentation, with most of patientsexperiencing atleast one episode in lifetime.

The incidence of epistaxis,among patients admitted for all otorhinolaryngological problems, in our institute was 9.9%.Males were more commonly affected with male:female ratio of 2:1 which was consistent with various authors of India and abroad.[3-9] however This finding agrees with Juselius H[3], Lee HS et al[4], Varshney S and Saxena RK[5], Ologee FE et al[6] and ChayasateS et al[7], whose finding range between 57.95-74.50% for male and 25.5-42.05% for female.KurienM et al[8] observed male to female ratio of 2.3:1 while Hussain G et al[9]and Iqbal S M et al[10] found male to female ratio of 2:1. Mean age of patient was 41 years with a range between

3-90 years. Maximum number patient were in fifties(17.8%) followed by the forties and thrities with 16.5% each and twenties contributed 15.8% of the case. Similar findings was reported by Kurien M et al, Lee HS et al,Varshney S and Saxena RK, Ologee FE et al and Chayasate S et al who observed the age range between 2-85 years the most common age group as the 40s and 50s and the mean between 37-40 years. Septum was themost common site of epistaxis with 56.58% in the present study, lateral wall 24.99%, floor23.68% while 10.53% site was not identified. Anterior epistaxis (69.73%) was more common than posterior epistaxis (35.52%). Anterior septal bleeding was the commonest at 63(41.45%) cases followed by anterior floor bleeding and posterior septal bleeding at 23(15.13%) cases each. Anterior lateral wall (inferior meatus and inferior turbinate) bleeding was seen in 20(13.15%)cases while posterior lateral wall (middle meatus and middle turbinate) bleeding in 18(11.84%) cases. Bleeding from posterior floor was seen in 13(35.52%) cases. Similar findings was reported by Razden U et al[11], Varshney S, Saxena RK, Ologee FE et al,Chayasate S et al , Hussain G et al and Arshad M et al[12].

In the analysis of aetiological factors of epistaxis in the present study, local factors were observed to be 89(58.6%), systemic factors 93(61.2%) while in 19(12.5%) of cases no etiological factors could be identified and they were classified as idiopathic. Similar findings were reported by Razden U et al, Kurien M et al and Lee HS et al. Though no idiopathic epistaxis was noted by Lee HS et al.

0ut of 152 patients, ANP was used 132 patients (86.8%),PNP in 19 patients (12.5%) chemical cautery in 17 patients(11.2%) and electrical cautery in 8 patients(5.3%) with success rate of 85.6% ,100%, 82.3% and 100% respectively. Kurien M et al, Ologee FE et al, and Hussain G et al reported similar findings in their study. MoatuxAet al[13] reported an employment of nasal packing in 94.1% of the epistaxis patients. Kotecha B et al[14] documented that the patients admitted with epistaxis were generally managed conservatively with few (<1%) requiring surgical intervention. Razdan U et al also noted that except for 0.3%, all cases of epistaxis was successfully managed by conservatively. Iseh KR and Muhammad Z[15] saw that conservative method was successful in 97.2%.

In this study no surgical intervention was done to arrest the epistaxis as all patients were successfully managed by non surgical methods.

V. Conclusion

Epistaxis is a common occurrence and is the commonest ENT emergency of all age groups though that below two years of age. The risk of occurrence of epistaxis increases with theage starting from 3rddecade of life co-relating to the fact that cardiovascular disease like hypertension play a significant role in the aetiology of epistaxis. Both the sexes are affected but more frequent in males.Patientpresentingwith epistaxis can have myriad of associated symptoms and varied signs depending upon the etiology. Some patientsespecially those with systemic infection as the etiology may presentwith fever as an associated feature.Majority of epistaxis is anterior and the site of bleedingis identified in most cases and easily accessible. The identification of bleedingand its accessibility is crucial in achieving the goal of the management of epistaxis, to arrest the bleeding since in anterior epistaxis in most cases conservative management will suffice purpose. Endoscope play important role in identification of posterior epistaxis and endoscopic assisted cauterization helps in successful conservative management.

References

[1]. Weis NS. Relation of high blood pressure to headache, epistaxis and selected other symptoms. N Eng J Med. 1972;287:631-33.
[2]. Small M, Murray M, Maran AG. A study of patients with epistaxis requiring admission to hospital. Health Bull (Edinb). 1982;40:20-29.
[3]. Juselius H. Epistaxis:A clinical study on 1724 patients. J laryngol otol.1974;88:317-27.
[4]. Lee HS, Yoon BN, Ahn JH, Kim TW, Lee JH, Roh HJ. Clinical analysis of the hospitalized epistaxis. J clinotolaryngol. 2004;15:239-44.
[5]. Varshey S, Saxena RK. Epistaxis: A retrospective clinical study. Ind J of otolaryngol head neck surg. 2005;57:125-29.
[6]. Ologee FE, Olajide TG, Alabi BS. Acute epistaxis :A review of hospitalized inpatients.European J of scientific research. 2005;11:76-85.
[7]. Chayasate S, Roongrotwattanasiri K, FooananS,Sumitsawan Y. Epistaxis in Chiang Mai university hospital. J Med assoc Thai. 2005;88:1282-86.
[8]. Kurien M, Raman R, Thomas K. Profuse epistaxis : An argument for conservative medical treatment. Singapore Med J. 1993;34:335-36.
[9]. Hussain G, Iqbal M, Shah SA, Said M, Sanaullah, Khan SA et al. Evaluation of aetiology and efficacy of management protocol of epistaxis. J Ayub Med coll Abbottabad. 2006;18:62-65.
[10]. Iqbal SM, Hussain SI, Hirani I, Malik S. Etiology and management outcome of epistaxis- our experience. Pak j otolaryngol. 2008;24:15-18.
[11]. Razdan U, Raizada RM, Chaturvedi BN. Epistaxis: study of etiology, site and side of bleeding. Ind J med Sc. 1999;56:545-552.
[12]. Arshad M,AhmedZ,Ali L. Epistaxis: An experience with over hundred cases. Rawal Med J. 2008;25:156-57.
[13]. Moatux A, Toma SM, Kaiser C, Gavila NJ. Conservative management of epistaxis.JLaryngol otol. 1990;104:868-70.
[14]. Kotecha B, Flowers S, Harknees P, Walmsley J, Brown P , Tophan J. Management of epistaxis: a national survey. Ann R CollSurg Engl. 1996;78:444-46.
[15]. Iseh KR, Muhammad Z. Pattern of epistaxis in Sokoto,Nigeria: A review of 72 cases. Ann Afr med. 2008;7:107-11.

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