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Original Research Article

A Retrospective Clinico Etiological Study of Adult Epistaxis in a Tertiary Centre in Guwahati

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Abstract:

Background: Epistaxis (nosebleed) is one of the most common ear, nose, and throat (ENT) emergencies that present to the emergency room or primary care. The true prevalence of epistaxis is not known, because most episodes are self-limited and thus most of the time is not reported. When medical attention is needed, it is usually because of either recurrent or severe bleeding. Treatment depends on the clinical picture, the experience of the treating physician, and the availability of ancillary services.

Materials And Methods: This retrospective observational study (based on hospital records) consists of 501 cases of epistaxis, due to various etiological factors studied between JAN.-2020 to DEC.-2022 in patients who attended emergency and OPD of ENT department of Gauhati Medical College and Hospital. A total of 501 cases were studied during this period and they constituted the subjects in this study.

Conclusion: Most of the patients had acute onset of bleeding. Anterior epistaxis was found to be more common than posterior bleeds. Most cases could be successfully managed with conservative treatment alone, while some required packing , local cauterization and surgical treatment.

Keywords: Epistaxis, Hypertension, Nasal Packing.

Introduction

Epistaxis has been identified as one of the most common otorhinolaryngological emergencies affecting the population worldwide. It is defined as bleeding from the nose and has been derived from the Greek term 'epistazein'. It is a symptom of many different diseases. The most commonest site of the bleeding from the nose is from the nasal septum, especially the anterior inferior part as it is the site of anastomosis of 4 major arteries forming the "Keisselbach's plexus". Clinically Epistaxis can be divided into Primary and Secondary epistaxis. There is a bimodal distribution of its incidence with respect to age i.e in childhood and in the 6thdecade respectively.: Epistaxis is a very common otorhinolaryngological symptom affecting the majority of the population worldwide. Most of the causes of epistaxis are not fatal and can be managed with primary medical interventions. However, a significant number of cases end up being admitted in the hospital. Adult epistaxis is a major cause of mortality and morbidity. It is also observed that there is a male preponderance in the incidence of epistaxis.

Aims and Objectives

- To find out the most common etiological factor based on the age groups.
- To find out the most common etiological factor based on the sex.
- To find a standard management protocol for adult epistaxis cases.

Methods and Materials

Study Design: Retrospective study.

Study Centre: Dept. of Otorhinolaryngology, Gauhati Medical College and Hospital

Study Period: Three Years [Jan 2020-Dec 2022]

Study Subjects: Patients who presented with epistaxis in the ENT emergency and OPD, GMCH above 16 years of age.

Sample Size: 501

Inclusion Criteria: All patients in the age of 16years and above, who presented with epistaxis in the emergency and were admitted in the Dept. of ENT, GMCH.

Exclusion Criteria

- People below 16 years of age.
- All patients with epistaxis as a post op complication only.

Clinical data of patients fulfilling the inclusion and exclusion criteria were examined, and the findings in their history and clinical examination were noted. According to the need of the hour, patients were managed with or without anterior or posterior nasal packs. The vitals were observed. A proper clinical evaluation followed the resuscitation for detection of the cause of the epistaxis. Other investigations like complete hemogram and routine examination of urine, diagnostic nasal endoscopy and radiological investigations were carried out subsequently as indicated. On occasions of detection of a sinonasal mass with epistaxis, a punch biopsy was done for confirmation of hispathology except in cases clinically suspicious of Juvenile nasopharyngeal angiofibroma. Surgical intervention like endoscopic sinus surgery and septoplasty, submucus resection etc were done according to the respective indications.

A stepwise approach was taken for management of epistaxis starting from nose pinching, cauterization (chemical or electrical) of visible bleeding points, and then progressing to management with anterior nasal pack alone or in conjunction with posterior nasal pack where necessary. Any systemic causes for recurrent epistaxis was actively looked into.

Results and Observations

The observations and results are made largely on the basis of Age, Sex and etiology. In our study out of 501 cases, 129 females and 372 males constituted the study population. Overall the most common cause of epistaxis was found to be hypertension which constituted 166 cases, wherein males were found to be more afflicted of it. Some of the hypertensive people in the study group also had associated conditions. Two people with hypertension were on aspirin therapy, 8 people were chronic alcoholics and had deranged liver function test along with hypertension whereas there was one case each of deranged coagulation profile, self -fall, Hepatitis B and Deviated Nasal Septum/septal spur along with hypertension. Nasal masses associated with epistaxis was found to be the next most common cause , constituting a total of 67 cases and consisted mostly of infected AC polyps ,inverted papilloma and nasal malignancy mainly in the 60 plus age group. There are 22 cases of Juvenile Nasopharyngeal Angiofibroma, all conventionally presenting in the teenage males of the study population, one of which was a case of post op case of JNA. All the cases except the post op case underwent excision after embolisation, while the post op case underwent endoscopic exploration and excision.

Frank malignancy was seen in 21 cases, whereas inverted papilloma was seen in 8 cases, infected, 2 cases of septal angioma, 4 cases of bleeding polypus and 10 cases of infected nasal polyposis.

The third most common cause of epistaxis was found to be idiopathic constituting a total of 61 cases.

Trauma resulted in epistaxis for 56 cases. Males were more affected than females. Out of 56 cases, 24 were road traffic accidents, 15 self-fall, 12 from random accidental trauma,4 post physical assault cases, while another was a case of workplace injury. Out of the 12 cases of random accidental trauma, 1 case consisted of a 17 year old boy who is a case of congenital heart disease with history of previous heart surgery who had epistaxis post injury while playing cricket.

Alcoholism presented with 46 out of 501 cases and out of these 42 cases had similar associations with hypertension, deranged liver function tests and local causes and 4 cases were not associated with any other factor. 27 cases of local causes like deviated nasal septum with nasal spur, synechiae and septal perforation was found in our study.

Deranged liver function tests and haematological causes mostly presented itself in association with other conditions like hypertension, alcoholism and kidney disease etc. there was 1 case of haemophilia, 2 cases of aplastic anaemia, 2 cases of idiopathic thrombocytopenic purpura, 1 case of B-ALL (acute lymphoblastic leukaemia), 2 cases of CML and one case of beta thalassemia.

Amongst the 17 cases of rhinosinusitis, 2 were cases of fungal rhinosinusitis.

There were 12 cases of iatrogenic trauma detected in our study, out of which there were 2 cases each of post operative endoscopic DCR and FESS surgery, 8 cases of quack treatment.

9 cases on aspirin therapy,1 case on heparin therapy which was started due to COVID infection, and one case on OCP.

There were 7 cases of Foreign body nostril who presented with epistaxis, out of which 4 were of rhinolith, one was an interesting case of a live insect in the nostril which occurred while swimming.

4 cases of epistaxis during pregnancy were also detected in our study, 2 cases each during the second and third trimester. All the cases had a deranged coagulation profile.

The aetiological factors that were determined in our study is presented below in a tabular form in table 1.

Table 1: Aetiology of Epistaxis

Aetiology of Epistaxis	No of Cases	Percentage
Hypertension Without Any Associated Factors	138	27.54
Nasal Mass	67	13.37
Idiopathic	61	12.17
Traumatic	56	11.17
Alcoholism With Associated Factors	42	8.38
Hypertension With Associated Factors	28	5.58
Local Causes (DNS/Nasal Spur, Synechia, Septal Perforation)	27	5.38
Hematological (Deranged Clotting Factors/Coagulation Profile, Hematological Disorders)	19	3.79
Rhinosinusitis	17	3.39
Iatrogenic	12	2.39
Medication (Aspirin, Heparin, Ocps)	11	2.19
Deranged Liver Function Test	8	1.59
Foreign Body Nose	7	1.39
Pregnancy	4	0.79
Alcoholism Without Any Associated Factors	4	0.79

Based upon age groups, we have divided the population into 4 groups as <25 years, 26-40 years, 41-60 years and 61 years and above. The most common cause of epistaxis has been found to be nasal mass (constituting mostly of JNA and infected polyp) in the first group and Hypertension in the rest three.

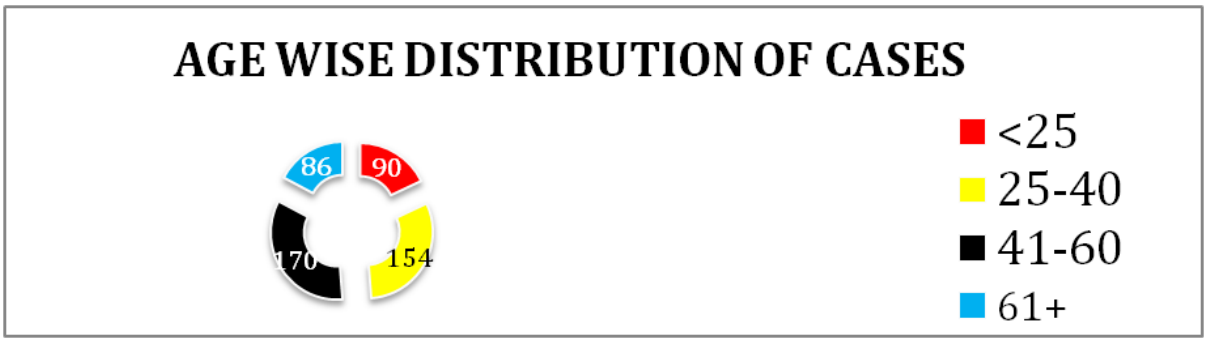


Figure 1: Age wise distribution of cases

Management primarily involved anterior nasal packing, merocel and cautery in addition to medical management. In relevant cases (5 cases), posterior nasal pack also had to be given to control the bleeding. Surgery was done in all the cases which needed surgical intervention while there was no case where Tespal was performed. In all the cases having other systemic involvement, the relevant departments help was also taken during management.

Table 2: Management

Management	No of Cases	Percentage
Anterior Nasal Pack (ANP)	229	45.7
Merocel	125	24.9
Nasal Surgeries	97	19.36
Chemical Cauterisation	18	3.59
Electrical Cauterisation	15	2.99
Medical Management with Systemic Diseases Management	12	2.39
ANP+PNP	4	0.79
Posterior Nasal Pack (PNP)	1	0.19

Discussion

Epistaxis is a cause of major concern among most of the ENT surgeons all over the world. A total of 501 cases presenting with epistaxis to the emergency and dept. of ENT of our hospital above the age of 16 years were included in this study. The observations from our study were as follows:

1) Our study had approximately 74% males and 26% females. Petruson B et al and McGarry commented on the predominance of the male sex in the prevalence of epistaxis [1,6].Our study had similar results . On the other hand Walker T. W. M., MacFarlane T. V., McGarry G. W. mention equal gender distribution [4].
2) Majority of the cases belonged to the age group of 41 and above.

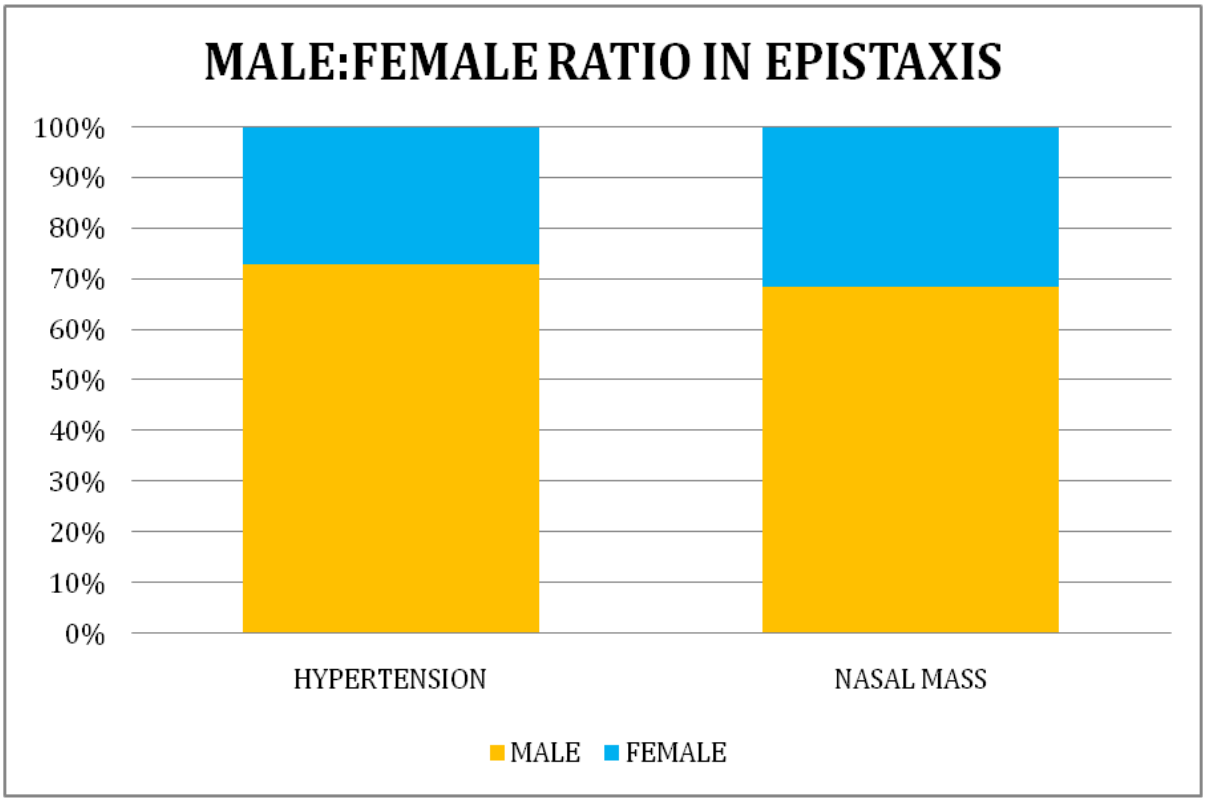
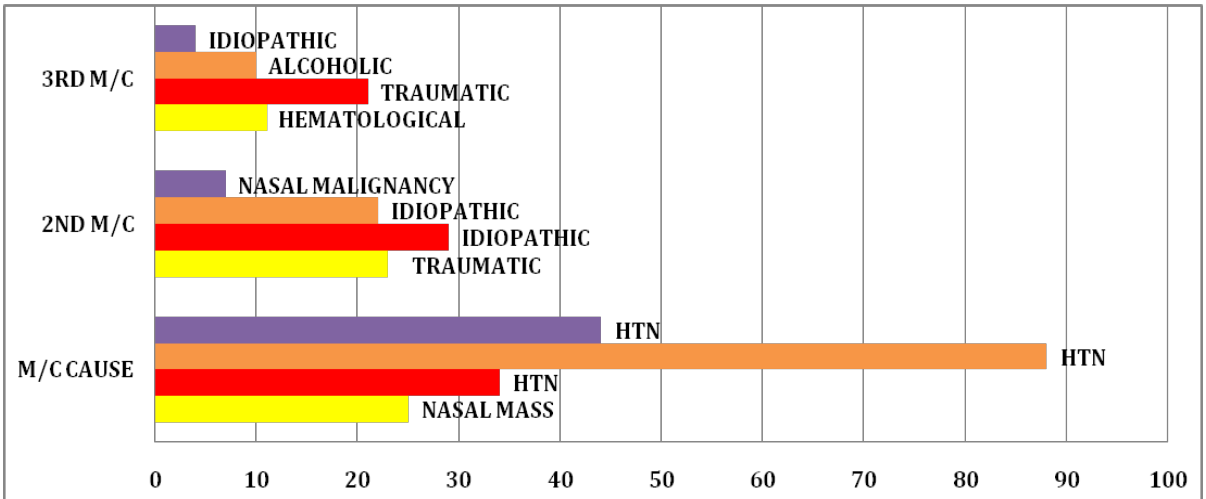


Figure 2: Male: Female ration in epistaxis

In our study most of the epistaxis cases were seen to increase in number with increasing age. This is in accordance with Walker T. W. M., MacFarlane T. V., McGarry G. W. who observed that this was proven clinically and may have been due to the increased incidence of cardiovascular disease, hypertension as well as increase in the number of trauma cases due to falls [4],

3) The most common cause of epistaxis differs according to the age group because of the varied predisposing conditions along with the external factors .Here we found that in the age group <25 years the most common cause of epistaxis was nasal mass mostly JNA, which is exclusively seen in teenage males and was closely followed by Traumatic which might be justified by the fact that young people, especially males take part in more adventurous and risk taking behaviours than people from a higher age group.
4) Amongst the traumatic cases, the maximum number of cases were that of road traffic accidents which supports Gilyoma JM observed in their study that road traffic crush was a significant causal factor for traumatic epistaxis [2].
5) In our study the most common cause of epistaxis was seen to be hypertension, again, more common in males than in females. Whilst medical literature in majority points to the direction of hypertension having little to no association with adult epistaxis as a significant cause, it must be kept in mind that in our study, not all cases were hypertensive with no associated aggravating factors or diseases.
This being a retrospective study, there might be lapses during history taking which precludes the association of hypertension with other associated factors. Hence, we must agree with Mc GARRY GW and Manickam, Ajay [7] that a number of large studies have failed in proving a causal relationship between hypertension and adult epistaxis [6].



	M/C CAUSE	2ND M/C	3RD M/C
60+	44	7	4
41-60	88	22	10
25-40	34	29	21
<25 YRS	25	23	11

Figure 3:

6) Alcoholism comprised of 46 cases out of which deranged LFT was a very common association in our study. It might point in the direction of the association of chronic alcoholism with liver damage which in turn causes a deranged LFT and a deranged coagulation profile. McGarry GW also cited that alcohol use by epistaxis patients is related to a prolonged bleeding time despite normal platelet counts and coagulation factor activity [6].
7) McGarry GW in his chapter Epistaxis of Scott Brown 8th edition has confidently stated based on previous research work done that most of the cases of adult epistaxis consist of idiopathic causes [6]. However, in our study idiopathic cause holds the third place for the most common cause of epistaxis. More research work done in this sector might help throw some more light on the disparity between the two.
8) Management in our centre mainly consisted primarily of anterior nasal packing and merocel followed closely by chemical cautery. It has been seen to be effective in controlling the bleeding in most cases. Exceptions arose in a few cases of JNA which also required postnasal pack and a combination of interventions to stop the bleeding. Gilyoma JM is of the opinion that non-surgical treatment still holds the pride of place for safety and cost effectiveness in management of epistaxis and surgery should only be considered as a last resort [2]. Parajuli R goes on a similar school of thought adds that proper nasal packing is of paramount importance in stopping the bleeding [3].

But Shargorodsky J puts emphasis on the importance of chemical cautery over non dissolvable packing and states that chemical cautery should be considered as first line of treatment to decrease recurrence [5]. Our study had 18 cases where chemical cautery was done hence achieving proper hemostasis.

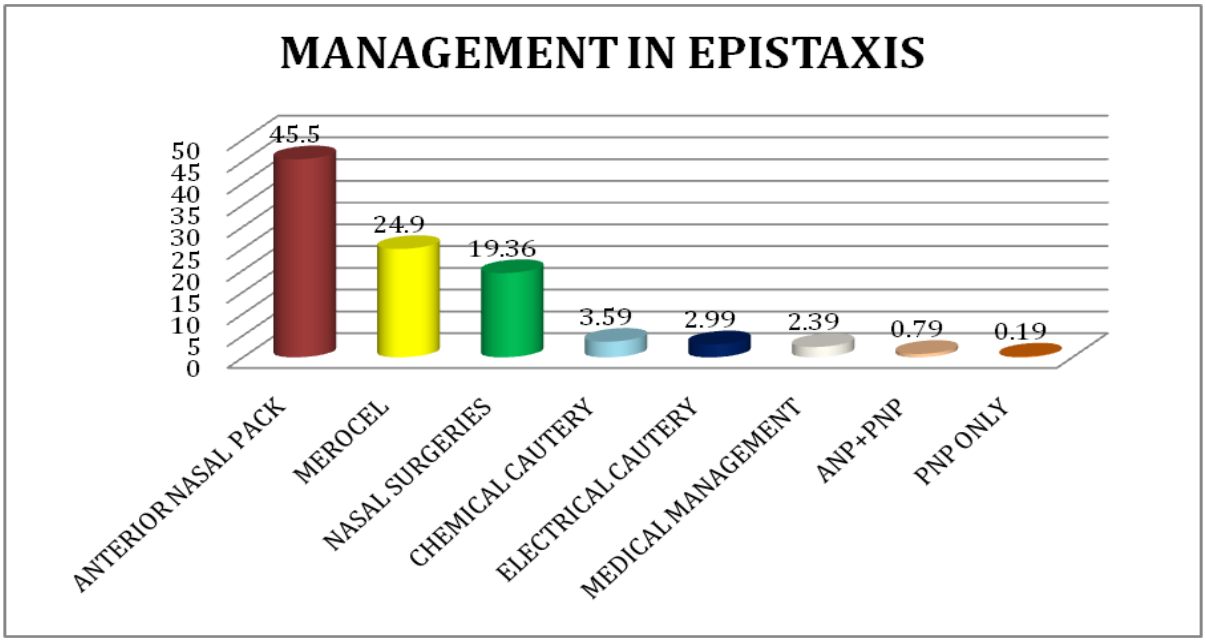


Figure 4: Management in epistaxis

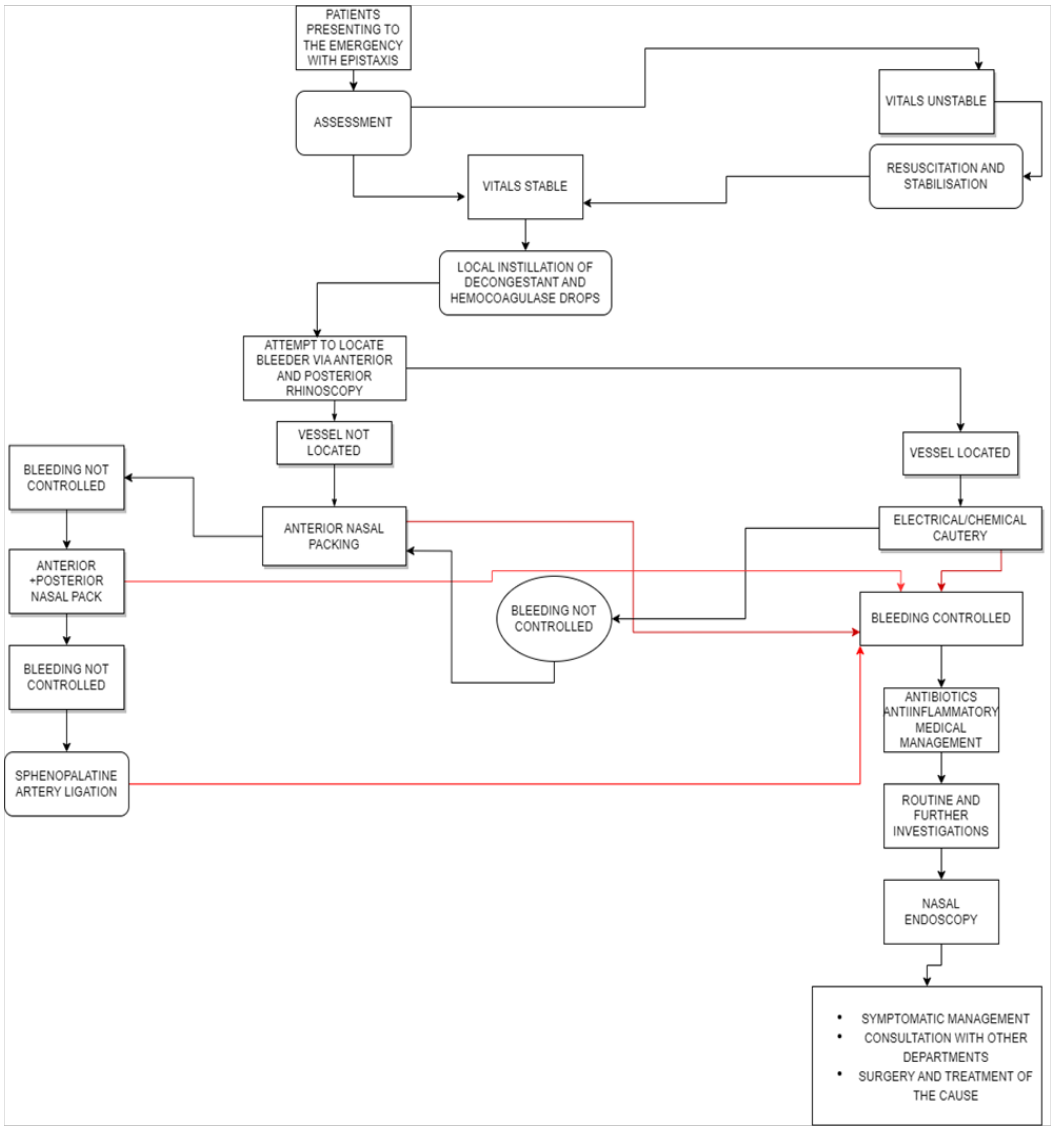


Figure 5: Algorithm for Management of Epistaxis in Our Centre for the Study Population

Conclusion

1) Epistaxis in adults has always been a source of grave concern especially in recurrent and profuse epistaxis. The initial management of epistaxis holds significant importance in proper intervention irrespective of the cause.
2) Contrary to popular medical literature our study highlights the fact that even though some cases have idiopathic origin but a majority of the bulk of cases have a definite cause /causes which when taken into account has helped in taking care of the bleeding and recurrence both.
3) Alcoholism has an aggravating role in the mechanism of epistaxis by affecting the liver function and the platelet action.
4) Management of epistaxis most of the time is done at the periphery or in the emergency by junior doctors or residents, hence the presence of a proper protocol for appropriate management might speed up the process of primary management.
5) Road traffic accidents if controlled might lead to decrease in the number of traumatic epistaxis cases in the casualty.
6) Chemical cautery, anterior nasal packing and merocel have proven to be very successful in aiding the initial control of bleeding, along with local and systemic medical management. Surgery should be considered only when indicated as per the cause.

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