

EPISTAXIS IN SAGAMU

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ABSTRACT

Background: Epistaxis is a common nasal complaint with varied aetiologies. Physicians need to know the characteristics of epistaxis in their area of practice in order to give the best amongst the various treatment options. The aim of this study was to analyze the causes, management and outcome of epistaxis in Sagamu

Materials and Methods: This is an analysis of the patients who had epistaxis and were managed in the Ear, Nose and Throat department of Olabisi Onabanjo University Teaching Hospital in Sagamu, Ogun state between July 2003 and June 2007.

Results: There were seventy-nine patients, M:F ratio was 1.3:1. There were two peak age groups between 1-10 and 31-40, with a mean age of 34.8 years. Anterior epistaxis was present in 60.8%, 11.4% had posterior, 5.1% had combined anterior and posterior, while the location of the bleeding could not be ascertained in 22.8% of the patients. The leading causes noted were idiopathic 29.1%, road traffic accidents 24.1%, sinonasal and nasopharyngeal malignancies 22.8%. 77.3% of the patients had their epistaxis controlled with nasal packs, with 72.2% of the nasal bleeds being well controlled without complications. 2.5% of the patients had recurrent epistaxis and 1.3% died.

Conclusion: The trend of epistaxis in our study is in agreement with that found in previous studies. Nasal packings were effective methods of treatment.

Key Words: Epistaxis, Nasal packing, Sagamu, Treatment.

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INTRODUCTION

Epistaxis is a common nasal complaint in general and Otorhinolaryngological practice which was mentioned in medical literature dating back to early times. Sixty per cent of the population may experience at least one episode of epistaxis during their lifetime.¹⁻³ It is a disease occurring in all ages, generally said to be more common in the younger, although posterior bleeding tend to be more common in the older age groups⁴ The causes are divided into local and general relative to the nose, and the common causes that were noted in the tropics were trauma, idiopathic causes and allergic rhinitis.⁵ The branches of the external and internal carotid arteries provide the vascular supply to the nose although not in equal proportions. The region that is superior to the middle turbinate is supplied by branches of the ophthalmic artery from the internal carotid artery. These branches include the anterior and posterior ethmoidal arteries. The region from the middle meatus and inferior to this is supplied mainly by branches of the external carotid artery and terminal branches of the internal maxillary artery (sphenopalatine and greater palatine arteries)

posteriorly. Anteriorly, it is supplied by branches of the facial artery. There is a watershed zone around the middle turbinate where there is an overlap of blood supply by branches of these two main arteries. The corresponding area of vascularisation on the nasal septum is obtained by an imaginary line at the same level with, and parallel to the middle turbinate. The little's area is the commonest location for anterior nasal bleeds, with bleeding originating from the Keisselbach's plexus which is arterial in origin. Venous sources occur posterior to the columella (from the retocolumellar vein) and also at the posterior end of the inferior turbinate⁶.

Definition of terms

Epistaxis: bleeding externally through the anterior nares alone or in association with other symptoms.

Anterior epistaxis: Bleeding from the nasal cavities which the bleeding vessel or area could be visualized on anterior rhinoscopy.

Posterior epistaxis: Bleeding from the nasal cavities in which the bleeding area is not visualized on anterior rhinoscopy.

Anterior rhinoscopy: Examination of the nasal cavities through the anterior nares with the naked eye or by the use of a nasal speculum. Good illumination is required for the examination.

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Posterior rhinoscopy: Examination of the post nasal space (nasopharynx) through the oral cavity and oropharynx by the use of post nasal mirror.

The key to effective control of epistaxis is the identification of the bleeding vessels and the area of the bleeding. Physicians for long have appreciated that pressure on the ala nasi was an effective method of controlling nasal bleeds. Different methods of controlling nasal bleeds have since evolved^{7,8} with varying levels of success. Although epistaxis evokes a lot of anxiety from patients and relatives, most cases are well controlled with simple measures. However, recurrent and severe episodes could be a challenge to Otorhinolaryngologists as they are associated with morbidity and sometimes mortality. The aim of this study was to analyze the causes, management and outcome of epistaxis in Sagamu. It is hoped that this will increase our understanding of the problem and aid in better management with reasonably good outcome.

MATERIALS AND METHODS

This is an analysis of the patients who had epistaxis and were managed in the Ear, Nose and Throat department of Olabisi Onabanjo University Teaching Hospital in Sagamu, Ogun state between July 2003 and June 2007. Case records of patients with epistaxis seen through the Accident and emergency unit, ENT clinic, and referrals from other wards were retrieved. Data extracted included the demography, nose bleed, duration of symptoms at index presentation, findings at nasal examination, other associated findings, diagnosis, treatment given and outcome of the intervention. Excluded from the study were patients who had epistaxis secondary to nasal and paranasal sinus surgeries. The data was analysed using SPSS version 15 and the results presented in descriptive, tabular and graphical forms.

RESULTS

There were seventy-nine patients, consisting of 44 males and 35 females M:F=1.3:1. The age ranged between 2 and 90 years, with a mean age of 34.8 +/- 22.5 years. There were two peak age groups between 0-10, and 31-40 years as shown in figure 1. While some patients presented with recurrent episodes of epistaxis over varying periods, the duration of symptoms at the index presentation in the hospital ranged from 1 hour to 3 weeks (mean =74.1 hours =3.1 days) SD=122.018. Although all the patients presented with history of nose bleeding, the associated major presenting clinical symptoms (Table1) were recurrent anterior rhinorrhoea 84.8%, nasal obstruction/mouth breathing, 65.8%, facial pain and headache 31.6%, and offensive nasal discharge 30.4%. Examination of the nose revealed

engorged turbinates in 84.8%, hyperaemia of the Little's area and nasal mucosa in 70.9%, and sino nasal/nasopharyngeal tumour in 24.1% of the patients. Idiopathic (unknown) cause tops the list of the patients' diagnosis with 29.1%. Tables 2 and 3 show the details of the clinical features and diagnoses of the patients respectively.

Anterior epistaxis was present in 60.8%, 11.4% had posterior, 5.1% had combined anterior and posterior, while the location of the bleeding could not be identified in 22.8% of the patients. Figure 2 is the graphical representation of location of nasal bleeding. The different methods for controlling epistaxis (Table 4) and some other treatments given is shown in Table 5, with some of the patients having more than one modality of treatment. 7 (8.9%) of the patients had epistaxis that were severe enough to warrant transfusion with whole blood. Analysis of the outcome of the patients revealed that majority (72.2%) of the patients had their epistaxis controlled without complications nor recurrence, 13.9% defaulted and were lost to follow-up, 11.4% were referred to other centres for further treatment, while 2.5% presented with recurrence of epistaxis and 1 patient (1.3%) died.

Figure 1: Age Distribution of the patients.

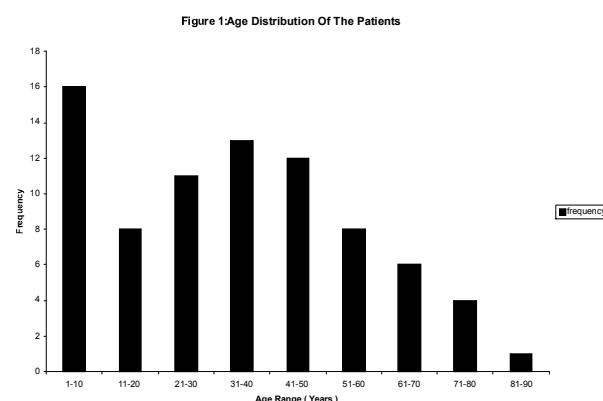


Table 1: Associated Symptoms.

Symptoms	Frequency (%)
Anterior rhinorrhoea	67(84.8%)
Nasal congestion and mouth breathing	52(65.8%)
Facial pain, headache and facial swelling	25 (31.6%)
Offensive nasal discharge	24 (30.4%)
Accidents/foreign body insertion in the nose/excessive sneezing	23 (29.1%)
Bleeding from the oral cavity	5 (6.3%)

Table 2: **Clinical Findings.**

Finding	No (%)
Engorged turbinates	67 (84.4)
Hyperaemic mucosa/ little's area	56 (70.9)
Nasal tumour	19 (24.1)
Distorted nasal anatomy/nasal foreign body	17 (21.5)
Bruises/ lacerations of nasal trauma	15 (19.0)
Nasal polyp	6 (7.6)

Table 3: **Clinical Diagnosis.**

Clinical diagnosis	No (%)
Idiopathic	23 (29.1%)
Road traffic accidents	19 (24.1%)
Sinonasal/naso-pharyngeal tumour	18 (22.8%)
Rhinosinusitis	7 (8.9%)
Nasal polyposis	6 (7.6%)
Nasal foreign body	5(6.3%)
Domestic injuries	1 (1.3%)
Systemic hypertension	0 (0%)
Bleeding diathesis	0 (0%)
Total	79 (100.1%)

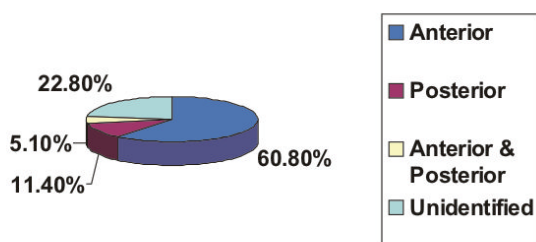
Table 4: **Treatment Modalities for the Patients.**

Interventions for Epistaxis Control	No (%)
Anterior nasal packing	51 (64.6%)
Posterior nasal packing	9 (11.4%)
Combined (ant &post)nasal packing	4 (5.1%)
Nasal pinching	4 (5.1%)
Ice packs on nasal bridge	2 (2.5%)
Cauterisation with Copper sulphate	2 (2.5%)
Cauterisation with Silver Nitrate	2 (2.5%)

Table 5: **Other Surgical Interventions.**

Intervention	No (%)
Examination under anaesthesia and biopsy	20 (25.3%)
Intranasal antrostomy	11 (13.9%)
Intranasal polypectomy	6 (7.6%)
Nasal foreign body removal	5 (6.3%)
Nasal septum repositioning	1 (1.3%)
Intranasal ethmoidectomy	1 (1.3%)

Figure 2: **Location of Epistaxis**



DISCUSSION

Epistaxis is a common medical and surgical condition presenting in general practice, casualty and Otorhinolaryngological practice⁹. There is a slight male preponderance that was noted in this study, similar to findings in other studies^{10,11}. The age distribution is wide, with two peak periods recorded in the age groups 0-10 and 30-40 years revealing that epistaxis is common in children and young adults. In children, minor trauma to the nasal mucosa from nose picking is a common cause of epistaxis. Some of the children in the initial age group also had foreign bodies inserted into their nasal cavities. For the second peak in age groupings, most of the cases were secondary to road traffic accidents and presented in the accident and emergency department. The mean age of 34.8 years was similar to that found in Port Harcourt, Nigeria¹¹. Aside from epistaxis, many of our patients presented with clinical features suggestive of rhinosinusitis. Rhinosinusitis predisposes to epistaxis due to the friable, congested and oedematous nasal mucosa, which has a propensity to bleed with minimal trauma like sneezing. Rhinosinusitis is often diagnosed with plain X-rays of the paranasal sinuses. The common radiological features seen include mucosal thickening, cloudiness and fluid levels from pus accumulation in the sinuses. However, a previous bleed from the nose into the maxillary antrum can also present as a fluid level in the antrum. It can be difficult to distinguish between blood and pus in the sinuses even on a computerized tomographic scan. Clots can block the maxillary sinus ostium while accumulated blood can become secondarily infected and lead to sinusitis. Previous attempts to stop the nasal bleeding at home or at other medical facilities also increased the risk of rhinosinusitis.

Majority of our patients had anterior epistaxis which is similar to findings in previous studies^{10,12} while the bleeding point or position could not be ascertained in 22.8% of the patients. Sinonasal endoscopy could be helpful in identifying these bleeding points and we suggest such facilities should be made available in every Ear, Nose and Throat centre. Anterior epistaxis is more common in children and young adults, whereas posterior epistaxis is more common in older individuals¹³. Posterior epistaxis also tends to be more severe and more difficult to control than anterior epistaxis and was found in 11.4% of the patients in this study. The definition of posterior epistaxis however lacks well defined landmarks, and subjective as it depends on the examining doctor's experience which is variable. A replacement of this definition with a more objective one with specific landmarks will resolve this ambiguity. The leading aetiological factors seen in this study were idiopathic, trauma and inflammation, and sinonasal/

nasopharyngeal Tumours in descending order. This trend is the same as that found in previous similar studies^{10,11}. Idiopathic cause is a diagnosis of exclusion and every effort should be made to find the cause of epistaxis in such patients with further investigations. Identification of the aetiology increases the possibility for a more effective treatment and reduces the likelihood for a recurrence of epistaxis which could be more severe. We often do clinical re-evaluation of our patients after bleeding had been controlled and order investigations as indicated to ascertain the possibility of an occult disease. The investigations included coagulation profile, liver function tests, renal function tests and examination under anaesthesia as indicated. We do not routinely screen all patients presenting with epistaxis for coagulation disorders in our centre because we are not convinced of its role in all patients. The investigation for potential haemostatic disorders should be performed when clinically indicated and, if necessary, in consultation with the haematology service¹⁴. Hypertension is a common systemic disorder that might influence the severity of epistaxis. Epistaxis in people who are hypertensive tend to be more severe than in non-hypertensives. The issue of whether hypertension is a cause of epistaxis however remains controversial. Anxiety state in patients with epistaxis can lead to transient elevation in the blood (especially the systolic) pressure. The blood pressure usually normalizes in such patients after control of the bleeding and the patients are calm. Persistent elevation in the blood pressure after the control of epistaxis arouses a suspicion of systemic hypertension predating and possibly causing the epistaxis. In such patients, the hypertension will need to be controlled and the cause also investigated. Our patients with persistent elevated blood pressures were noted to have other ailments that caused their epistaxis while none of the others with initial elevated blood pressures was confirmed as hypertensive. It was demonstrated that hypertension is not associated with history of epistaxis in adulthood in free-living individuals¹⁵. Our hospital is a tertiary centre in a town which is sandwiched between two major express roads hence cases of epistaxis arising from road traffic accidents causing trauma in the facial region are commonly seen. Most of the patients had their epistaxis controlled with minimal intervention once more serious injuries like airway compromise and other maxillofacial injuries have been excluded. Sinonasal tumors remain one of the common causes of epistaxis, and the least intervention that were offered our patients were an examination under anaesthesia and biopsy with histopathological diagnosis. All the patients with malignancies in the sinonasal and

nasopharyngeal regions were subsequently referred to centres that had radiotherapy facility for further treatment. Otorhinolaryngologists and general physicians need to find out the causes and know the characteristics of epistaxis in their own area of practice in order to be able to give optimal management. Although some patients had more than one modality for control of their epistaxis, nasal packing was the most commonly used method (in 77.3%) for controlling epistaxis in our centre. This is similar to what obtains in other parts of Nigeria^{11,12}. Our treatment modalities showed that 72.2% of the patients had successful treatment without complications. Complications are associated with failure to achieve a control from previous intervention and can present as severe or recurrent nasal bleeds. More invasive procedures like arterial ligation or intra-arterial embolisation of bleeding vessels are required to achieve control in such cases but none of our patients had any of these. The effectiveness of some of these invasive procedures when compared with nasal packing is however controversial. While some authors claim to achieve better success rates with the invasive procedures¹⁶, others found no comparable advantage of either arterial ligation, or intra-arterial embolisation over nasal packing for the treatment of epistaxis⁹. A low complication rate of 2.5% recorded in this study is also similar to those of previous studies^{17,18}. Blood loss was severe enough to warrant blood transfusion in 8.9% of the cases in this study. The use of blood and its products should be practised with caution due to the attendant risks, while crystalloids and colloids provide alternatives. The mortality recorded was that of a patient diagnosed with nasopharyngeal carcinoma. He had previously been referred for radiotherapy only to present as an emergency with torrential epistaxis three months afterwards. Posterior epistaxis which commonly occurs after radiotherapy for nasopharyngeal carcinoma is difficult to treat and often fatal¹⁹. All the mortalities recorded by Huang and Shu were from post-irradiation nasopharyngeal cancer patients with internal carotid artery bleeding¹⁷. Endovascular embolization of vessels is a safe and effective method of controlling refractory epistaxis in patients irradiated for nasopharyngeal carcinoma^{20,21}. The patients that defaulted and lost to follow-up were 13.9% in this study. The issue of patients defaulting during treatment and follow-up remains a knotty one in our clinical practice. Some patients default due to lack of education on the nature, the treatment of their ailments and the necessity for follow-up visits. Others however default for economic reasons due to the relatively high cost of medical care amongst an impoverished population.

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