ORIGINAL ARTICLE

Management Pattern of Epistaxis in Sokoto, Nigeria

Adeyeye FM[1], Iseh KR[2], Aliyu D[2]

ABSTRACT

Background: Epistaxis is a life threatening otorhinolaryngological emergency presenting as acute or chronic recurrent bleeds. **Objectives:** The study was designed to evaluate the treatment modality used in managing patients with epistaxis in Sokoto. **Methods:** It was a prospective hospital-based study involving 135 patients presenting with epistaxis to Usmanu Danfodiyo University Teaching Hospital (UDUTH). Information on treatment received, blood transfusion, hospital admission and length of hospital-stay were obtained. **Results:** A total of 133 (98.5 %) patients were managed non-surgically, while 2 (1.5 %) patients received surgical intervention. Of those who received non-surgical treatment; 60 (44.4%) had anterior nasal packing, while 27 (20.0%) had endoscopic cauterization. Out of this, 25 (18.5%) had endoscopic chemical cauterization for bleeding in the Little`s area, retrocolumellar and septum, whereas 2 (1.5%) had bipolar cauterization for bleeding on the Woodruff`s plexus. Twenty (14.8%) patients had both anterior and posterior nasal packing, 15 (11.1%) had combined nasal pinching and ice pack, while 11 (8.2%) had posterior nasal packing only. Two (1.5%) patients had ligation of the internal maxillary artery (surgical intervention).Of all the patients presented, 22 (16.3%) required blood transfusion during their management and 43 (31.9 %) needed admission. The duration of hospital-stay ranged from 1 to 9 days with a mean of 5.7 ± 1.9 days. **Conclusion**: Non-surgical intervention is the most common modality used in managing epistaxis in the study centre, with anterior nasal packing as the major method employed. In addition, some patients required blood transfusion and hospital admission.

Keywords: Epistaxis, Nasal packing, Blood transfusion, Hospital-stay

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Introduction

Epistaxis or nose bleeding is a common emergency in otorhinolaryngological practice[1] that creates anxiety and considerable distress among relatives[2]. Traditionally, epistaxis has been classified based on the anatomic location of the bleeding site into anterior or posterior bleeds[3]. Anterior epistaxis is bleeding from a site anterior to the plane of piriform aperture while posterior epistaxis is bleeding from a site posterior to piriform aperture[4]. The former is more common in children usually following nose picking, while the latter is seen in adults probably due to hypertension and atherosclerosis[5].

Access this article online
Quick Response Code
website:www.bornomedicaljournal.com
DOI: 10.31173/bomj.bomj_2101_18

The management of epistaxis is often a challenge to the Otolaryngologists. Though most cases are mild and may resolve spontaneously, a good number of patients present with severe bleeding which causes hemodynamic instability and may result in death if not properly managed[6]. The best mode of treating patients with epistaxis remains a controversy. Conventionally, management of epistaxis comprises resuscitation, brief history and examination, pinching of the nose, nasal packing or chemical cautery (non-surgical) with surgery been reserved for refractory cases[1]. The goal of treatment is to control bleeding using the least invasive method, reduce rates of complication, replace blood loss, reduce cost of treatment, identify and treat the etiology as well as minimize length of hospital stay[7]. However, every case is treated as an independent

entity based on the site and severity of bleeding; its cause (s) and patient`s clinical state at presentation[8]. Geriatrics with bilateral nasal packs and patients with cardiorespiratory disorders should be hospitalized and closely monitored[9]. In addition, patients with hemodynamic instability will usually require blood transfusion. There is no study on the pattern of management of epistaxis in Sokoto to the best of our knowledge. This study was therefore designed to determine the treatment modality of epistaxis in Sokoto, Nigeria. Information obtained from this study will provide insight on the common methods of managing epistaxis in the study area.

Materials and Methods

The study was a prospective hospital-based study involving 135 patients presenting with epistaxis to Usmanu Danfodiyo University Teaching Hospital (UDUTH) from January to December, 2017. The patients presented via the Accident and Emergency unit and Otorhinolaryngology Department of UDUTH.

Ethical approval was obtained from the Ethical and Research Committee of UDUTH with approval number UDUTH/HREC/2016/NO.496, and only those who consented were included in the study. Information on age, gender, history of nose bleed, nature and laterality of nose bleed, associated co-morbidities, use of drugs, treatment received, blood transfusion requirement and length of hospital-stay were obtained. In addition, all clinically stable patients were examined using anterior rhinoscopy and endoscopic examination (0^0 and 30^0 nasal endoscopes). The severity of bleeds was classified as mild, moderate or severe depending on the amount of blood lost. Patients with severe epistaxis were first resuscitated, while minimizing bleeding by nasal packing. Endoscopic examination of the nose in this category of patients was deferred until their vital signs were stable and nasal bleeding minimized or stopped. Patients with packed cell volume (PCV) of <30%were transfused. Indications for hospital admission in this study included patients with moderate to severe epistaxis, uncontrolled co-morbidities, geriatrics with bilateral nasal packs and those who required blood transfusion. Data obtained were analyzed using Statistical Package for Social Sciences (SPSS) version 20.0(SPSS Inc., Chicago, Illinois, USA) and presented in tables.

Results

The frequency distribution of treatment received in patients with epistaxis is presented in Table 1. Majority 133 (98.5 %) of the patients were managed non-surgically, while 2 (1.5 %) patients received surgical intervention. Of those who received non-surgical treatment, 60 (44.4%) patients received anterior nasal packing, while 27 (20.0%) had cauterization. Out of this, 25 (18.5%) had endoscopic chemical cauterization for bleeding in the Little`s area, retrocolumellar and septum and 2 (1.5%) had bipolar cauterization under general anaesthesia, for bleeding on the Woodruff`s plexus. Patients with both anterior and posterior nasal packing were 20 (14.8%) patients, 15 (11.1%) had combined nasal pinching and ice pack, while 11 (8.2%) had only posterior nasal packing. Only 2 (1.5%) patients had endoscopic ligation of the internal maxillary artery. A total of 22 (16.3%)patients required blood transfusion during their management (Table 2), while, 43 (31.9 %) needed admission (Table 2).The duration of hospital-stay ranged from 1 – 9 days with a mean of 5.7 ± 1.9 days.

Table 1: Frequency distribution of treatment received by patients with epistaxis

Treatment modalities		Frequency	Percentage (%)
Non- Surgical 133(98.5 %)	Anterior nasal packing	60	44.4
	Endoscopic chemical cauterization	25	18.5
	Endoscopic bipolar cauterization	2	1.5
	Anterior and posterior packing combined	20	14.8
	Nasal pinching + ice pack	15	11.1
	Post nasal packing	11	8.2
Surgical 2 (1.5 %)	Internal maxillary artery ligation	2	1.5
		135	100.0

Table 2: Blood transfusion and hospital-stay in patients with epistaxis

	Yes	No
Blood transfusion	22 (16.3 %)	113 (83.7 %)
Hospital admission	43 (31.9 %)	92 (68.1 %)

Hospital stay ranged from 1 – 9 days with a mean of 5.7 ± 1.9 days

Discussion

Epistaxis is a common otolaryngological emergency that can be life threatening[10], although, most cases are mild and resolve spontaneously[6]. The prevalence of epistaxis and nasal endoscopic findings have been published in our earlier reports[11-13]. In the present study, most patients were managed non-surgically. This is similar to the findings of Mgbor[13]and Shaw *et al*.[14]in Enugu, Nigeria and West Virginia, U.S.A., respectively. This is expected as the goal of the otorhinolaryngologist in managing epistaxis is to control bleeding using the least invasive method. In addition, the method used in controlling epistaxis depends on the severity of bleeding at presentation. In this study, more patients had mild to moderate epistaxis hence more non-surgical interventions were used.

Anterior nasal packing was the most frequent treatment method used in this study. This is similar to earlier reports in Port-Harcourt, Enugu, Ile-Ife, Sokoto and Kaduna[13,15-19] all in Nigeria. It is also similar to the report of Shaw *et al*.[14]in U.S.A. Anterior nasal packing is the first line of intervention at stopping epistaxis in patients with bleeding at presentation, while waiting to get detailed information to institute suitable treatment measures. This was the case in this study as most patients referred from other units of the center such as Accident & Emergency Department, Medical wards, Paediatrics ward, Trauma centre and Obstetrics and Gyneacology ward already had anterior nasal packing and bleeding controlled. Endoscopic cauterization was the second most frequent treatment used in this present study. This was achieved using nasal endoscopy which provided visualization of hidden sites and aided in the treatment of areas inaccessible by the anterior rhinoscopy[12].

The use of anterior and posterior nasal packs was the third most frequent treatment used in this study. This has been used in earlier studies to control epistaxis[16,18,20]. In the present study, anterior and posterior nasal packing was used in patients with bleeding from both anterior and posterior sites of the nasal cavity. In addition, some patients with bleeding from the nasopharynx and posterior part of the nasal cavity had anterior nasal pack added to re-enforce the posterior packing as suggested by Nwaorgu[21]. Nasal pinching and application of ice packs on the bridge of the nose, was the fourth most frequent treatment received by patients with mild chronic bleeds. Some patients had this at home prior to presentation at the hospital, while others had this in the hospital

Surgical method was rarely used in this study, except in a 37-year-old with recalcitrant epistaxis and a 62-year-old with facial trauma. This is similar to the report of Eziyi *et al*.[16] in Ile-Ife, Nigeria, although different surgical approaches were used. Surgical intervention was employed following failure of non-surgical (conservative) treatment modalities. All the patients were successfully managed, though failure rates ranging from 10% to 14% have been reported[17,22]. Causes of surgical failure have been attributed to increased age, anaemia and hypertension[23].

Of all the participants in this study, 16.7% had blood transfusion ranging from 2 to 3 pints. The volume of blood transfused depended on the amount of blood lost. This is similar to the report of Eziyi *et al*.[16] but higher than the reports of Akinpelu *et al*., Kodiya *et al*., and Sogebi *et al*.[18,20,24]. In the study center, blood transfusion is usually given in severe acute blood loss or patients with packed cell volume less than 30 %. However, this depends on the clinical judgment of the managing consultant. This is necessary to prevent hypovolemic shock and death, as well as improve the overall clinical state of the patient. A total of 31.9 % patients required hospital admission in the present study. Hospital admission is usually considered in patients with severe epistaxis, co-morbidities, posterior nasal pack, bilateral anterior nasal pack and in geriatric patients[25]. The mean hospital-stay was 5.7 ± 1.9 days. This is similar to the 5.0 ± 2.7 days reported by Eziyi *et al*. in Ile-Ife[16]. The similarity with this report despite the use of nasal endoscopy may be due to bad communication

network, and long distance between the health facility and other communities. It may be more convenient for patients to remain on admission to complete all necessary treatment. In addition, patients with nasal pack and those who received blood transfusion required close monitoring, and this prolonged their hospital-stay. Hence, patients are monitored closely in the hospital until they are fit to resume routine daily activities. In this study, a significant number of patients referred from the Accident and emergency, as well as other departments already had anterior nasal packing. When not done properly, it may worsen the nasal bleed and make endoscopic detection of primary bleeding site difficult. This was a limitation in this study. Hence, health workers should be educated to only apply nasal packs when immediate referral to an Otorhinolaryngologist may be delayed. In addition, availability of other treatment modalities such as use of gel- foam, tamponades and embolization may improve the efficiency of the otorhinolaryngologist.

Conclusion

The study shows that non-surgical intervention was the most common modality used in managing epistaxis in Sokoto, with anterior nasal packing being the major method employed. Few patients had blood transfusion and required hospital admission.

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Cite this Article as: Adeyeye FM, Iseh KR, Aliyu D. Management Pattern of Epistaxis in Sokoto, Nigeria. **Bo Med J 2021**; 18(1):1-5 **Source of Support:** Nil**, Conflict of Interest:** None declared