

## Incidence of Epistaxis in a Tertiary Hospital in Ghana

Awuah Peter\* Amedofu Geoffery Kwabla Duah Mohammed Isshalqd

Department of Eye, Ear, Nose and Throat, School of Medical Sciences, Kwame Nkrumah University of Sciences and Technology, Private Mail Bag Kumasi – Ghana.

\*Email of the corresponding author: drawuah@yahoo.com

### Abstract

Epistaxis is defined as bleeding from the nasal cavity. It is a very common Otorhinolaryngological problem that often presents as an emergency to the outpatient departments of most hospitals worldwide. Its true incidence is often very difficult to assess. This study was aimed at analyzing aetiology, treatment and management outcome of patients who presented with epistaxis at Komfo Anokye Teaching Hospital (KATH), Kumasi, Ghana. This is a three year retrospective study (Jan2007-Dec 2010). All cases of epistaxis that presented at the Ear, Nose and Throat (ENT) clinic at KATH or referred from the polyclinics and the district hospitals were included. A total number of 96 cases were seen with epistaxis over a period of three years. There were 63 (66%) males and 33 (34%) females. Their ages ranged from 1-80 years. The commonest cause of epistaxis was idiopathic with 51 (53%) cases followed by nasal trauma with 11 (11.5%) cases and nasopharyngeal carcinoma 8 (8.3). This study supports the clinical usefulness of conservative management in the treatment of patients with epistaxis.

**Key words:** key words, Epistaxis, Nosebleed, Idiopathic, aetiology, incidence.

### 1. Introduction

Epistaxis is a frequent otolaryngologic emergency (Eziyi, *et al.*, 2009). It is a symptom of a large number of widely diverse conditions. It has been reported that up to 60% of the general population will experience at least one episode of epistaxis in their life time, and 6% will seek medical attention for it (Schaikin, 1987). Some authors portray epistaxis as a disease of the young, whereas others have noted epistaxis to be more common in the elderly (Eziyi, 2009). The causes of epistaxis include both local and systemic factors such as trauma, tumours, infection, blood dyscrasias, ureamia, cardiovascular diseases, and allergic rhinitis. However, the aetiology is idiopathic in majority of cases (Khtoum, 2008).

The vast majority of nose bleeds occur in the anterior part of the nose from the nasal septum. This area is richly endowed with blood vessels (Kiesselbach's plexus). This region is also known as Little's area. Bleeding farther back in the nose is known as a posterior bleed and is usually due to rupture of the sphenopalatine artery or one of its branches. Posterior bleeds are often prolonged and difficult to control. They can be associated with bleeding from both nostrils and with a greater flow of blood into the mouth. Treatment modality is divided into non-surgical (non-interventional / conservative) and surgical (interventional). The non-interventional therapy includes anterior nasal packing, posterior nasal packing with catheters, balloons or packs, and local cauterization (chemical or electro-cutlery) (Okafo, 1984). The surgical approaches include cryotherapy, submucosal septal resection, endoscopic cauterization, arterial ligation and endovascular embolisation of maxillary or ethmoidal arteries. The causes, management and outcome of patients who presented to our hospital with epistaxis were studied and analyzed.

### 2. Patients And Methods

This was a retrospective review of cases of epistaxis managed in the Ear Nose and Throat Department of Komfo Anokye Teaching Hospital (KATH) Kumasi, over a three-year period January 2007–December 2010. The records of ninety-six cases of epistaxis managed in our unit during this period were retrieved. Information on socio-demographic characteristics (age, sex, occupation) were retrieved as well as duration of epistaxis before presentation. The causes of epistaxis and the modalities of management were also entered into the data form.

### 3. Results

As can be seen in Table 1, a total of ninety-six cases of epistaxis were seen. There were sixty-three (63) males (66%) and thirty-three (33) females (34%). Their ages range from 1 to 80 years.

Peak incidence was in the age group 31-40 years. Table 2 shows the aetiological factors of epistaxis in this series. The results showed that the most common cause of epistaxis is idiopathic (53%), nasal trauma (11.5%), nasopharyngeal carcinoma (8.3%), nasal tumours (8.3%), hypertension (5.2%), sinusitis (7.3) and so on.

We also see in Table 3, the site of epistaxis in the patients. We do note that bleeding in the right nose was more common than the left. In a few patients, bleeding in both nasal cavities occurred.

Table 4 summarizes the treatment options applied to control epistaxis. Ninety five patients (99%) responded to non-surgical treatment. Anterior nasal packing was the most common procedure followed by posterior nasal packing. Cauterization was used on two patients and a surgical approach in arterial ligation was used on only one patient.

**3.1 Table 1: Age, gender and distribution of epistaxis**

Age	Males	Females	Total	Percentage
1- 10	8		2	10.4%
11- 20	10	4	14	14.6%
21- 30	9	7	16	16.7%
31- 40	20	12	32	33%
41- 50	8	3	11	11.5%
51- 60	5	3	8	8.3%
61- 70	3	2	5	5.2%
Total	63	33	96	100%

**3.2 Table 2: Aetiological factors of epistaxis**

Aetiological factors	Number of patients	Percentage
Idiopathic causes	51	53
Nasal trauma	11	11.5
Nasopharyngeal carcinoma	8	8.3
Sinusitis	7	7.3
Tumours of nose	8	8.3
Hypertension	5	5.2
Blood disorders	2	2
Drugs (anticoagulants)	1	1
Liver disease	3	3
<b>Total</b>	<b>96</b>	<b>100</b>

**3.3 Table 3: Sites of bleeding nose**

Nasal Cavity	No.	Percentage
Right nasal cavity	63	65.6
Left nasal cavities	22	23
Both nasal cavities	11	11.4

Bleeding from the right nasal cavity is more common than the left but in a few patients both nasal cavities bleed.

**3.4 Table 4: Treatment options applied to control epistaxis**

Treatment option	No. of patients	Percentage
<b>Non-surgical</b>		
Anterior nasal packing	78	81.5
Posterior nasal packing	12	12.5%
Anterior and Posterior nasal packing	3	3%
Cauterization	2	2%
<b>Surgical</b>		
Arterial ligation	1	1%

#### 4. Discussion

Epistaxis is an ever-present clinical problem and is one of the most common rhinologic emergencies in most ENT units. The most common procedure used in this study was anterior packing, followed by posterior nasal packing. The anterior/posterior packing was kept in situ for two days before removal.

Cauterization was used on two patients and a surgical approach in arterial ligation was used on only one patient. We normally prescribe any sedative in this operation but the commonest one used in this study was diazepam. In cases that did not yield to anterior and posterior packing maxillary artery ligation through Caldwell-luc operation was done.

Again in this study, all age groups were represented. Epistaxis was found to be more common in the young adult (33%) in the 31-40 age group. This is at variance to findings by Pallin *et al.* (2005) who found a bimodal age-related frequency with peaks among those younger than 10 years and age 70-79 years. Men were affected much more than women in these series. This male preponderance has been documented in the literature (Eziyi, 2009). The most common cause of epistaxis as revealed by this study is idiopathic (53%) followed by nasal trauma (11.5%) which is commonly due to road traffic accidents, nasopharyngeal carcinoma and tumour of the nose. This is at variance with the findings of others (Shahid *et al.*, 2003; Saha *et al.*, 2005 and Eziyi, 2009) in which majority of the patients had traumatic epistaxis. It however corroborates the work of Okafor (1984) and Brobby and Ofofu Barko (1990).

Hypertension accounted for 5% of the cases studied. Other studies (Ogura and Senturia, 1949; Malik and Bhatia, 1978; Rezadan and Zadan, 1999, Jackson and Jackson, 1988) have reported a high incidence of hypertension-induced epistaxis. Though it is not documented how hypertension initiates epistaxis, it is known that the arterial muscle degeneration associated with hypertension leads to a defective muscle which lacks the power to contract, therefore leading to persistent bleeding.

As stated early, the nasal packs consist of ribbon gauze impregnated with bismuth iodoform paraffin paste (BIPP) was used to control anterior epistaxis while posterior packing with Foleys Catheter balloon was found to be very effective in our practice in emergency room even in cases of profuse epistaxis. This study shows the reliability of the conservative management approach in treating epistaxis. This is consistent with the reports of Khtoum and Roosan (2008).

Materials to control epistaxis should be available in emergency rooms of hospitals in Ghana and doctors and nurses should be encouraged to know the basic anterior and posterior packing procedure.

#### 5. Conclusion

The study comprises of cases of epistaxis. A high incident in young adults was reported with preponderance of males over females. This study supports the credibility of conservative management procedure in the treatment of epistaxis. Except for one case that required arterial ligation, all cases were treated successfully with conservative management. Hence, this approach should be the preferred option in the management of epistaxis especially in developing countries.

#### 6. ACKNOWLEDGEMENT

We express our appreciation to Mr. Anthony Atta-Effa, the departmental secretary for his invaluable secretarial services.

#### REFERENCES

1. Brobby, G. W. and Ofofu Barko, F. O. (1990). Aetiology, Management and complications of Epistaxis at Komfo Anokye Teaching Hospital, in Ghana. *JGMA*, 24: 144-148.
2. Eziyi, J. A. E., Akinpelu, O. V., Amusa, Y. B., and Eziyi, A. K. (2009). Epistaxis in Nigerians. *East and Central Journal of Surgery*, 14 (2): 93-97.
3. Jackson, R. T. (1988). Factors associated with active refractory epistaxis. *Arch.Otolaryngol. Head and Neck Surgery*, 114: 862-865
4. Khtoum, N. A. and Roosan, M. A. (2008). Evaluation of conservative measures in the treatment of epistaxis. *Khartoum Medical Journal*, (1)1: 15-17
5. Ogura, J. H. and Senturia, B. H. (1949). Epistaxis. *Laryngoscope* 59, 743-763

6. Okafor, B. C. (1984). Epistaxis: A clinical study of 540 cases. *Ear, Nose and Throat Journal*. 63, 153-159
7. Shahid, A., Sam, M. and Mohammed, S. (2003). Epistaxis: Etiology and Management. *Ann King Edward Med. Coll.*, 9(4): 272-4.
8. Saha, S., Chandra, S., Moudal, P. K. Das, S. and Mishra, S. (2005). Emergency cases in a Medical College, Kolkata, *Int. Journal of Head and Neck Surgery*. 57(3): 219-225
9. Pallin, D. J., Chng, Y., Mckay, M. P. and Emond, J. A. (2005). Epidemiology of epistaxis in US emergency departments. *Annals of emergency medicine*. 46 (1): 77-81
10. Schaitkin, B., Strauss, M. and Houck, J. R. (1987). Epistaxis: Medical vrs Surgical therapy. *Laryngoscope*. 97, 1392-1396
11. Razdan, U. and Zada, R. M. (1999). Epistaxis: Study of aetiology, site and side of bleeding. *Indian J. Med. Science*, 5:, 545-52.
12. Schaitkin, B., Strauss, M. and Houck, J. R. (1987). Epistaxis: Medical vrs Surgical therapy. *Laryngoscope*. 97: 1392-1396
13. Khtoum, N. A. and Roosan, M. A. (2008). Evaluation of conservative measures in the treatment of epistaxis. *Khartoum Medical Journal*, 1 (1): 15-17
14. Okafor, B. C. (1984). Epistaxis: A clinical study of 540 cases. *Ear, Nose and Throat Journal*. 63: 153-159
15. Pallin, D. J. Chng, Y. Mckay, M. P., Emond, J. A. (2005). Epidemiology of epistaxis in US emergency departments. *Annals of emergency medicine*. 46 (1): 77-81
16. Razdan, U. and Zada, R. M. (1999). Epistaxis: Study of aetiology, site and side of bleeding. *Indian J. Med. Science*, 53: 545-52.
17. Malik, M. K. and Bhatia, B. P.R. (1978). *Indian Medical Gazette*, 112: 56-59
18. Jackson, K. R. and Jackson, R. T. (1988). Factors associated with active refractory epistaxis. *Arch. Otolaryngol. Head and Neck Surgery*, 114(2): 862-865.
19. Razdan, U. and Zada, R. M. (1999). Epistaxis: Study of aetiology, site and side of bleeding. *Indian J. Med. Science*, 53: 545-52.

**First A.** Rev. Dr. P. Awuah is an Ear, Nose and Throat Consultant Surgeon in the Department of Ear, Eye, Nose & Throat of KATH. He holds BSc. (Human Biology) and MB ChB. in Medicine. He is a Senior Lecturer at Kwame Nkrumah University of Science and Technology. He is a member of West African College of Surgeons and also in Ghana. His area of sub-specialization is Otolology of which he has conducted several researches. Presently, he is the Head of Eye, Ear, Nose & Throat in the School of Medical Sciences, KNUST.  
E-mail: [drawuah@yahoo.com](mailto:drawuah@yahoo.com)

**Second A.** G. Kwabla Amedofu

Prof. Geoffrey Kwabla Amedofu is an Associate Professor of Clinical Audiology and Speech Sciences at the Department of Eye, Ear, Nose and Throat, Kwame Nkrumah University of Science and Technology (KNUST). He had a PhD from the Michigan State University, East Lansing, Michigan USA. He is a former Head of the department of EENT and leader of Clinical Audiology in Africa and presently the only Professor of Clinical Audiology in Ghana.  
E-mail: [Amedofugk@yahoo.com](mailto:Amedofugk@yahoo.com)

**Third A.** I.M. Duah

Dr. Issahalg Mohammed Duah is a lecturer in the department of Eye, Ear, Nose and Throat, College of Health Sciences, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi. He holds MD (Medical Degree) from Dokuz Eylul University, Izmir- Turkey.  
He is ENT Surgeon and Fellow of the West African College of Surgeons (FWACS). He received a professional degree in Project Design and Management from the Liverpool School of Tropical Medicine (Ghana). His research interest is in general Ear, Nose and Throat diseases and hearing health in particular.

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. **Prospective authors of IISTE journals can find the submission instruction on the following page:**

<http://www.iiste.org/Journals/>

The IISTE editorial team promises to review and publish all the qualified submissions in a fast manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

### **IISTE Knowledge Sharing Partners**

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

