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Research Article

## ASSOCIATION OF HYPERTENSION WITH EPISTAXIS: A SINGLE CENTER STUDY

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**Abstract:**

**Introduction/Background:** Epistaxis is defined as hemorrhage from inside the nose. Many patients are presented in hospital with epistaxis due to traumatic and non-traumatic causes, with or without the systemic diseases. Most of the patients with epistaxis give history of hypertension and already taking anti-hypertensive drugs.

**Objective:** To establish the role of hypertension in cases of epistaxis.

**Material and method: Study design:** Prospective study

**Settings:** Department of Otorhinolaryngology, E.N.T. Unit-I, Allied hospital/ Faisalabad Medical University, Faisalabad.

**Duration:** Three months i.e. from 16-01-2019 to 15-04-2019.

**Sample size:** 60

**Procedure:** 60 patients were enrolled according to inclusive and exclusive criteria. History of the patients presented with epistaxis was taken regarding co-morbidities especially related to hypertension. Blood pressure was recorded at time of admission, with patients totally unaware of the reading. Then every 30 min, reading of blood pressure was taken and in this way 5 readings were taken, and average value was obtained. The average value of >140/90 mmHg was taken as standard to categorize the patient with high blood pressure. Frequency and percentage calculated for data and chi-square test applied and level of <0.05 taken significant.

**Results:** 60 patients enrolled with age range from 5-75 years and mean age as 39.53 years. Out of 60 patients, 34 were male and 26 were females. Out of 60 patients, 24 patients (40%) who presented with epistaxis were hypertensive and presented with high blood pressure and 36 patients (60%) were normotensive and presented with normal blood pressure.

**Conclusion:** Based upon results of this study, it is concluded that there is no significant relationship between hypertension and epistaxis and raised blood pressure is not significant factor in initiating the epistaxis.

**Key Words:** Epistaxis, Hypertension.

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**INTRODUCTION:**

Epistaxis is defined as hemorrhage from inside the nose <sup>(1)</sup>. Epistaxis is divided in to two types, Anterior and Posterior epistaxis, on the basis of location of the source of bleeding; the most common source is Little's area <sup>(2)</sup>. Epistaxis is common in different age groups. Most of the patients with epistaxis present with hemodynamic stability, rarely the patient with profuse epistaxis go in to state of shock. Since the nose has rich vascular supply from both internal carotid and external carotid arteries <sup>(3)</sup>, that is why epistaxis is quite common and even minor trauma leads to epistaxis. Common causes of epistaxis include trauma, environmental factors, blood diathesis, inflammatory causes, various kinds of tumors and drugs <sup>(4)</sup>. In drugs, anticoagulants, such as clopidogrel, acetyl salicylic acid and vitamin k are major risk factors for epistaxis <sup>(5)</sup> <sup>(6)</sup>, as they increase the bleeding tendency in the patients and patient present with spontaneous epistaxis. Hypertension is thought to be a factor in cases of epistaxis. In patients who come with high blood pressure and epistaxis, they may have increased blood pressure due to sight of blood, anxiety of bleeding or anxiety of hospital settings <sup>(7)</sup>. So in all the patients who present with high blood pressure and epistaxis, the history of hypertension and related treatment should be asked and in all these patients, blood pressure should be controlled first <sup>(8)</sup> <sup>(9)</sup>. In our part of world, study is lacking which could assess the relationship between hypertension or raised blood pressure and epistaxis. The purpose of this study is to establish the relation between hypertension and epistaxis, to establish whether the raised blood pressure could be a factor leading to epistaxis.

**OBJECTIVE:**

To establish the relation between hypertension and epistaxis.

**MATERIAL AND METHOD:**

**Study design:** Prospective study

**Settings:** Department of Otorhinolaryngology, E.N.T. Unit-I, Allied hospital/ Faisalabad Medical University, Faisalabad.

**Duration:** Three months i.e. from 16-01-2019 to 15-04-2019.

**Sample size:** 60

**Sampling technique:** Non-probable consecutive sampling.

**Inclusion criteria:** Patients presenting in E.N.T. Unit-I, Allied Hospital, Faisalabad for treatment of epistaxis.

**Exclusion criteria:** Patients presented with traumatic basal fractures and patients with congenital bleeding diathesis were excluded from study.

**Procedure:** 60 patients were enrolled according to inclusive and exclusive criteria. History of the patients presented with epistaxis was taken regarding comorbidities especially related to hypertension. Blood pressure was recorded at time of admission, with patients totally unaware of the reading. Then every 30 min, reading of blood pressure was taken and in this way 5 readings were taken, and average value was obtained. The average value of >140/90 mmHg was taken as standard to categorize the patient with high blood pressure.

**Statistical analysis:** Obtained data observed and categorized according to gender and age groups. Frequency and percentage calculated for data and chi-square test applied and level of <0.05 taken significant.

**RESULTS:**

60 patients enrolled with age range from 5-75 years and mean age as 39.53 years. Out of 60 patients, 34 were male and 26 were females. Patients were stratified in group I to group III as group I (less than 25 years), group II (25-50 years) and group III (more than 50 years). Patients were stratified to group to gender distribution.

**Table No.1: Group to Gender Distribution**

	<b>Group I</b>	<b>Group II</b>	<b>Group III</b>	<b>Total</b>
Male	8	19	7	34
Female	4	15	7	26
Total	12	34	14	60

Out of 60 patients, 24 patients (40%) who presented with epistaxis were hypertensive and presented with raised blood pressure while 36 patients (60%) were normotensive with normal blood pressure.

**Table No. 2: Patient's group to incidence of hypertension distribution**

	Hypertensive	Non-hypertensive	Total
Group I	4	8	12
Group II	16	18	34
Group III	4	10	14
Total	24	36	60

Patient's group to gender and incidence of hypertension distribution is done. (Table No. 3)

**Table No. 3: Patient's group to gender and incidence of hypertension distribution**

	Group I		Group II		Group III		Total
	Hypertensive	Non-hypertensive	Hypertensive	Non-hypertensive	Hypertensive	Non-hypertensive	
Male	3	5	10	9	3	4	34
Female	1	3	6	9	1	6	26
Total	4	8	16	18	4	10	60
	12		34		14		

Statistical analysis is applied for using chi-square test and is found that there is no significant relationship between hypertension and epistaxis.

#### DISCUSSION:

Epistaxis is bleeding from nose and is has various etiologies. The cases of epistaxis are common in males than in females, with prevalence in all age groups. The patients who presented with epistaxis are categorized in two groups on the basis of history and vitals on presentation, one with positive history of hypertension and presented with raised blood pressure and the other one, including normotensive patients with normal blood pressure. Previous studies conducted in this regard show no significant relationship between hypertension or raised blood pressure and epistaxis. According to one study, the incidence of hypertension in patients of epistaxis is in range from 24-64%<sup>(10)</sup>. Another study reveals that 43.7% patients who were admitted in hospital for epistaxis were hypertensive<sup>(11)</sup>. Another study shows the similar results, with incidence of hypertension in 48% of patients presented with epistaxis<sup>(12)</sup>. Our conducted study shows the consistent results with previously conducted studies and showed that just 40% of patients who presented with epistaxis were hypertensive and with raised blood pressure at time of admission.

#### CONCLUSION:

Based upon results of this study, it is concluded that there is no significant association of hypertension with epistaxis. Although hypertensive patients present with epistaxis, but no such relation could be established between hypertension and epistaxis. However, it is found that blood pressure of hypertensive patients should be controlled during management of epistaxis

for better results and to inhibit any complication related to hypertensive urgency.

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