Section: ENT

Original Research Article

SELF-PERCEPTION OF NUTRITION STATUS OF SECONDARY SCHOOL STUDENTS IN AN URBAN AREA OF MANGALORE

Gaurav[1], Harikesh Sharma[2], Rakesh Kumar[3], M. Imran Khan[4], Sarthak Sharma[5], Simran[6]

[1]*Resident, Department of ENT, NC Medical College and Hospital, Israna, Panipat, Haryana, India.*
[2]*Professor, Department of ENT, NC Medical College and Hospital, Israna, Panipat, Haryana, India.*
[3]*Professor, Department of ENT, NC Medical College and Hospital, Israna, Panipat, Haryana, India.*
[4]*Assistant Professor, Department of ENT, NC Medical College and Hospital, Israna, Panipat, Haryana, India.*
[5]*Resident, Department of ENT, NC Medical College and Hospital, Israna, Panipat, Haryana, India.*
[6]*Resident, Department of ENT, NC Medical College and Hospital, Israna, Panipat, Haryana, India.*

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Corresponding Author:
Dr. Harikesh Sharma,
Professor, Department of ENT, NC Medical College and Hospital, Israna, Panipat, Haryana, India.

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ABSTRACT

Background: Epistaxis is a frequently encountered emergency characterized by bleeding from the nasal cavity. It is one of the common reasons for visits to emergency departments and may result from a wide range of etiological factors such as trauma, local infections, systemic hypertension, and underlying coagulation disorders. The association between hypertension and epistaxis has attracted clinical attention for many decades. Several studies have indicated that individuals with poorly controlled or long-standing hypertension are at a higher risk of developing epistaxis, possibly due to vascular damage and increased fragility of blood vessels caused by persistently elevated blood pressure levels.[4,5] It has been proposed that greater severity of hypertension may influence both the frequency and severity of nosebleeds, as increased intravascular pressure can weaken the delicate vessels of the nasal mucosa, making them more susceptible to rupture. The study aim to augment the meager information available on this important topic. **Study Design:** A Prospective observational study. **Setting:** tertiary health care centre (NC Medical College and Hospital, Israna Panipat, India).

Materials and Methods: A prospective observational study was carried out at casuality department of a tertiary health care centre over a period of 12 months. A total of 90 patients were evaluated for there blood pressure status and history of hypertension. Blood pressure was divided as per American Heart Association guideline into normal, elevated, stage1 and stage 2. The variables include in the study were type of epistaxis ie. anrerior or posterior, duration, severity and management require. Results were recorded and statistically analysed using

Results: Out of 90 patients 47(52.22%) had stage 2 hypertension, 29(32.22%) had stage 1 and 14(15.55%) had elevated blood pressure.59 patients (65.55%) had history of hypertension for more than 10 yrs,21(23.33) for 5-10 yrs and 10 patients (11.11%) had hyretension history for less than 5 yrs. Posterior epistaxis was significantly more in stage 2 hypertensive patients($p<0.001$) as compare to stage 1 or elevated hypertension. Epistaxis was also more severe and require more aggressive treatment in stage 2 hypertensive patient.

Conclusion: Significant correlation exist between stage of hypetension and severity of epistaxis and management. Stage 2 hypertensive patients had more severe epistaxis and require more aggressive treatment. Furthermore epistaxis patients were more in group in which hypertension was long standing.

Keywords: anterior epistaxis, posterior epistaxis, hypertension.

INTRODUCTION

Epistaxis is a frequently encountered clinical condition characterized by bleeding from the nasal cavity. It is one of the common reasons for visits to emergency departments and may result from a wide range of etiological factors such as trauma, local infections, systemic hypertension, and underlying coagulation disorders. Owing to its extensive and rich vascular network, the nasal mucosa is especially vulnerable to bleeding episodes. The association between hypertension and epistaxis has attracted clinical attention for many decades. Several studies have indicated that individuals with poorly controlled or long-standing hypertension are at a higher risk of developing epistaxis, possibly due to vascular damage and increased fragility of blood vessels caused by persistently elevated blood pressure levels.[1,2]

Despite the availability of considerable research on this topic, clear and conclusive evidence regarding the exact role of both the duration and severity of hypertension in the occurrence of epistaxis remains limited. While certain studies have demonstrated that severe or uncontrolled hypertension significantly raises the risk of epistaxis, other investigations have not found a strong or consistent correlation between the two conditions. The present study is therefore designed to examine the association between hypertension and epistaxis, with specific emphasis on evaluating how the severity and duration of hypertension may influence the occurrence of nasal bleeding, in an effort to augment the meager information available on this condition.[3,4,5]

MATERIALS AND METHODS

Study Design and Settings

The present prospective observational study was done in the emergency department of a tertiary care centre NC Medical College and Hospital, Israna, Panipat, India over a period of 12 months from May 24 to April25.

Inclusion and exclusion criteria

All patients above the age of 18 yrs, presented to emergency department with active epistaxis were taken for study. Status of there current blood pressure and duration were documented. Patients who are on anticoagulant, antiplatlets, with deviated nasal septum, tumour, trauma, any other risk factor of epistaxis other than hypertension or who are not willing for study were excluded from this study.

Classification of blood pressure

Blood pressure was classified according to American Heart Association 2017 guidelines. Blood pressure was measured with the help of a caliberated digital sphygmomanometer in a sitting position in nondominant arm after a period of 5 minutes rest.

Data collection and analysis

Data were entered in a standardized data collection form. Data recorded are demographics (age, gender), epistaxis type wheather anterior or posterior, current blood pressure status, duration of blood pressure, duration and frequency of bleeding, comorbidities, type of treatment require(conservative or intervention),admission and outcomes of the participants. A voluntarily informed consent were signed by all enrolled participants. Institutional Ethical Clearance Certificate were taken from Institutional Ethical Committee. The data collected were stored in a Microsoft excel sheet. The data analysed using SPSS software version 27.

RESULTS

Amongs 90 patients most patients belonged to the 40–59 years age group (63.33%), followed by 60–79 years (23.33%) and 18–39 years (11.11%). Only 2.22% of patients were aged more than 79 years. The overall mean age of the patients was 52.6 years with a standard deviation of 12.98 years. Males were more common (65.55%) than females (34.44%). Hypertension: Blood pressure was recorded at presentation, and patients were classified The distribution of patients based on the stage of hypertension showed that the majority were in Stage II hypertension, accounting for 52.22% of cases. This was followed by Stage I hypertension (32.22%) and elevated blood pressure (15.55%). majority of patients (65.55 percent) had a history of hypertension for more than 10 years. This was followed by 23.33 percent of patients with a duration of 5 to 10 years. Only 11.11 percent of patients had hypertension for less than 5 years, indicating a predominance of long standing hypertension in epistaxis in the study population. In patients with elevated blood pressure and Stage I hypertension, anterior epistaxis was more common. In contrast, out of 47 patients with Stage II hypertension 19 showed a marked increase in posterior and recurrent epistaxis (40.4%). Most patients in elevated or stage 1 hypertension managed conservatively or anterior nasal packing. In Stage II hypertension, conservative treatment was rarely sufficient, and most patients required anterior or posterior nasal packing or electrocautery. Overall, higher stages of hypertension were associated with the need for more invasive intervention.

Table 1: Distribution of patients based on age

Age group	No. Of patients	percentage
18-39	10	11.11
40-59	57	63.33
60-79	21	23.33
>79	2	2.22
Total	90	100

Table 2: Distribution of patients based on gender

Gender	No of Patient	Percent
Male	59	65.55
Female	31	34.44
Total	90	100

Table 3: Distribution of patients based on stages of hypertension (According to American Heart Association):

Stage of HTN	No of Patient	Percent
Elevated	14	15.55
Stage 1	29	32.22
Stage 2	47	52.22
Total	90	100

Table 4: Distribution of patients based on duration of hypertension Mean ≈ 11.0 years; Standard Deviation ≈ 5.21 year

Duration of HTN	No. of Patients	Percent
<5	10	11.11
5-10	21	23.33
>10	59	65.55
Total	90	100

Table 5: Distribution of patients based on type of epistaxis

Type of Epistaxis	No. of Patients	Percent
Anterior	65	72.22
Posterior	25	27.78
Total	90	100

Table 6: Association between hypertension and epistaxis type

Stage of HTN	Anterior Epistaxis	Posterior Epistaxis
Elevated	12	2
Stage1	25	4
Stage2	28	19
Total	65	25

Table 7: Distribution of Patients Based on Management

Stage of HTN	Conservative	Anterior Packing	Posterior Packing	Electrocautery	Total
Elevated	10	4	0	0	14
Stage1	9	13	4	3	29
Stage2	2	27	10	8	47
Total	21	44	14	11	90

DISCUSSION

Several studies have indicated that individuals with poorly controlled or long-standing hypertension are at a higher risk of developing epistaxis. The probable mechanisms that might be responsible for this is either increased fragility of blood vessels due to long standing hypertension,[6,7] or alteration of several vascular wall protiens and extracellular matrix components like Vascular Endothelial Growth Factor(VEGF),Endothelial Glycoproteins, Fibronectin and Laminin.[8,9] It has been proposed that greater severity of hypertension may influence both the frequency and severity of nosebleeds.[10] Patients with elevated and Stage I hypertension predominantly presented with anterior epistaxis, whereas posterior epistaxis was more frequently observed in patients with Stage II hypertension. Thereis shift from anterior to posterior bleeding with increasing hypertension severity.[11] In present study recurrence and severity was more common in stage 2 hypertension. Stage 2 hypertension was also associated with more chance of posterior epistaxis and also require more invasive intervension for control of bleeding. Also overall epistaxis (anterior or posterior) was more common in patients with long standing hypertension.

CONCLUSION

The current study findings suggest a relationship between epistaxis severity, its risk, type and management. Stage 2 hypertension may be considered as a risk factor for severe and recurrent epistaxis. Invasive intervention requirement is more in stage 2 hypertension. Hence proper monitoring and control of blood pressure may serve as a preventive measure for severe and recurrent epistaxis. Further more studies are required to explore the causality of hypertensive patients presented with epistaxis.

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