

Assessment of Prevalence and Clinical Profile of Hypotension among Patients Visiting Tertiary Care Center: An Observational Study

Aditya Kumar Gupta

Associate Professor, Department of General Medicine,
Rajshree Medical Research Institute & Hospital, Bareilly, Uttar Pradesh, India.

ABSTRACT

Background: A fall in arterial blood pressure results in failure to perfuse the systemic capillary networks. Hypotension is commonly encountered problem these days. Hence; the present study was undertaken for assessing the prevalence and clinical profile of hypotension among patients visiting tertiary care center.

Materials & Methods: A total of 1200 patients were analyzed. Complete demographic and clinical details of all the subjects were obtained. Clinical profile of all the patients with hypotension was recorded. Assessment of prevalence of hypotension was done in separate Microsoft excel sheets. All the results were analyzed by SPSS software.

Results: Hypotension was found to be present in 116 patients. The commonly encountered clinical manifestations of hypotension in the present study were Blurred vision (58 patients), Cold, pale skin (69 patients), Depression (56 patients), Dizziness, nausea (38 patients), Palpitations (88 patients) and Rapid breathing (70 patients).

Conclusion: Incidence of hypotension increases with age.

Also, significant number of cases is getting encountered these days. Hence; adequate education and awareness programmes are strongly recommended in future.


Key words: Clinical, Hypotension, Prevalence.

*Correspondence to:

Dr Aditya Kumar Gupta,
Associate Professor,
Department of General Medicine,
Rajshree Medical Research Institute & Hospital,
Bareilly, Uttar Pradesh, India.

Article History:

Received: 15-04-2018, **Revised:** 07-05-2018, **Accepted:** 21-05-2018

Access this article online	
Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2018.4.3.060	

INTRODUCTION

A fall in arterial blood pressure results in failure to perfuse the systemic capillary networks. Compensatory reflexes usually prevent this situation and awareness of these mechanisms helps in understanding the causes and management of hypotension. Intrinsic, local tissue factors regulate blood flow through certain vascular beds ('autoregulation'), e.g. brain, but superimposed upon these are factors controlling the systemic arterial pressure.¹⁻³ Blood pressure is the product of cardiac output, peripheral vascular resistance and blood volume. Thereby blood pressure can be influenced by higher senses, e.g. emotion, and adjustments in autonomic activity can be coupled with changes in secretion of antidiuretic hormone and adrenocorticotrophic hormone. The autonomic-baroreceptor control of blood pressure seems more important for producing short-term variations in blood pressure. Renal retention of sodium and water (thereby increasing blood volume) via the renin-angiotensin-aldosterone system appears more important for longterm adjustments of blood pressure.⁴⁻⁶ Hypotension is commonly encountered problem these days. Hence; the present study was undertaken for assessing the

prevalence and clinical profile of hypotension among patients visiting tertiary care center.

MATERIALS & METHODS

The present study was conducted with the aim of assessing the prevalence of hypotension among patients visiting Department of General Medicine, Rajshree Medical Research Institute & Hospital, Bareilly, Uttar Pradesh, India. A total of 1200 patients were analyzed. Complete demographic and clinical details of all the subjects were obtained. Exclusion criteria for study included:

- Diabetic subjects,
- Subjects with any known drug allergy,
- Subjects with positive history of intake of any drug with known effect of hemodynamic status

Clinical profile of all the patients with hypotension was recorded. Assessment of prevalence of hypotension was done in separate Microsoft excel sheets. All the results were analyzed by SPSS software. Chi- square test was used for assessment of level of significance.

RESULTS

In the present study, a total of 1200 patients were analyzed who reported to the tertiary care Centre. Among these 1200 patients, hypotension was found to be present in 116 patients. Mean age of the hypotensive patients of the present study was 52.8 years. 50 percent of the patients (58 patients) belonged to the age group

of more than 50 years. The commonly encountered clinical manifestations of hypotension in the present study were Blurred vision (58 patients), Cold, pale skin (69 patients), Depression (56 patients), Dizziness, nausea (38 patients), Palpitations (88 patients) and Rapid breathing (70 patients).

Table 1: Prevalence of hypotension

Parameter	Number of patients	Percentage of patients
Hypotension	116	9.67%

Table 2: Age-wise and gender distribution of patients with hypotension

Parameter	Number of patients with hypotension		p- value
Age group (years)	Less than 30	20	0.74
	30 to 50	38	
	More than 50	58	
Gender	Males	60	0.45
	Females	56	

Table 3: Clinical profile of the patients with hypotension

Clinical profile	Number of patients	Percentage
Blurred vision	58	50
Cold, pale skin	69	59.48
Depression	56	48.27
Dizziness, nausea	38	32.76
Palpitations	88	75.86
Rapid breathing	70	60.33

DISCUSSION

Hypotension is commonly associated with abnormalities of other vital signs, in particular heart rate and rhythm. Similarly, abnormalities of oxygenation and gas exchange may be present as evidenced by desaturation on pulse oximetry and problems with ventilation. It is important to determine which abnormality represents the primary problem as this will influence the differential diagnosis and management. This issue is worthy of consideration as it presents implications for workload and time management.⁷⁻⁹ Hence, the present study was undertaken for assessing the prevalence of hypotension among hypertensive patients after induction of general anesthesia.

In the present study, a total of 1200 patients were analyzed who reported to the tertiary care Centre. Among these 1200 patients, hypotension was found to be present in 116 patients. The most sensitive and consistent measurements are the ones obtained early in the morning, when patients are usually more symptomatic. In patients with hypertension, a reduction of SBP of 30 mm Hg is more appropriate to define orthostatic hypotension (OH) because the magnitude of the fall in BP depends on the baseline BP. However, prospective studies demonstrate that a decline in SBP of >20 mm Hg is a risk factor for falls, especially in elderly patients with hypertension.⁷ In the present study, mean age of the hypotensive patients of the present study was 52.8 years. 50 percent of the patients (58 patients) belonged to the age group of more than 50 years. Concomitant measurements of heart rate are important because the absence of adequate compensatory

heart rate increase is typically of neurogenic OH, a pathologic form of OH caused by central or peripheral nervous system diseases that results in autonomic failure. On the other hand, exaggerated tachycardia (>15 beats per minute) will suggest dehydration, volume depletion, or other transient conditions rather than neurogenic OH. In the elderly, however, cardioacceleration is less useful as a diagnostic tool because of an age-related reduction in baroreflex sensitivity.⁸ In the present study, the commonly encountered clinical manifestations of hypotension were Blurred vision (58 patients), Cold, pale skin (69 patients), Depression (56 patients), Dizziness, nausea (38 patients), Palpitations (88 patients) and Rapid breathing (70 patients). Chronic hypotension occasionally results from severe reductions of cardiac output due to cardiac failure, from ischaemic heart disease, or induced by myocardial depression by drugs such as Vancomycin or cytotoxics. Deficient glucocorticoid and mineralocorticoid secretion causing reduction of plasma volume are the major endocrine causes of chronic hypotension. Hypotension is usually worse in patients with primary adrenocortical failure than in those with hypopituitarism because aldosterone secretion is partially preserved in pituitary insufficiency. Postural hypotension may be caused by one or more of three general mechanisms: relative or absolute intravascular volume decrease; defects in the sympathetic reflex arc normally acting to maintain blood pressure on standing by vasoconstriction; and a defect in the response of vascular smooth muscle to vasoconstrictors such as noradrenaline.^{8,9}

CONCLUSION

From the above obtained results, it can be concluded that incidence of hypotension increases with age. Also, significant number of cases is getting encountered these days. Hence; adequate education and awareness programmes are strongly recommended in future.

REFERENCES

1. Freeman R, Wieling W, Axelrod FB, Benditt DG, Benarroch E, Biaggioni I, et al. Consensus statement on the definition of orthostatic hypotension, neurally mediated syncope and the postural tachycardia syndrome. *Clin Auton Res.* 2011;21(2):69–72.
2. Ooi WL, Hossain M, Lipsitz LA. The association between orthostatic hypotension and recurrent falls in nursing home residents. *Am J Med.* 2000;108:106–111.
3. Wessely S, Nickson J, Cox B. Symptoms of low blood pressure: a population study. *BrMedJ* 1990;301:362-6.
4. Biaggioni I, Zygmunt D, Haile V, Robertson D. Pressor effect of inhaled ergotamine in orthostatic hypotension. *Am J Cardiol* 1990;65:89-92.
5. Griffiths M. Introduction to human physiology. New York: McMillan, 1981: 73-4.
6. Schmidt RF, Thews G. Human physiology. 2nd ed. Berlin: Springer-Verlag, 1989:656-9.
7. Shand BI. Changes in blood rheology induced by lactic acid. *Proceedings of the University of Otago Medical School* 1986; 64: 71-2.
8. Cohen ME, Consolazio F, Johnson RE. Blood lactate response during moderate exercise in neurocirculatory asthenia, anxiety neurosis or effort syndrome. *J Clin Invest* 1947;26: 339-42.
9. Gangavati A, Hajjar I, Quach L, Jones RN, Kiely DK, Gagnon P, et al. Hypertension, orthostatic hypotension, and the risk of falls in a community-dwelling elderly population: the maintenance of balance, independent living, intellect, and zest in the elderly of Boston study. *J Am Geriatr Soc.* 2011;59(3):383–89.

Source of Support: Nil.

Conflict of Interest: None Declared.

Copyright: © the author(s) and publisher. IJMRP is an official publication of Ibn Sina Academy of Medieval Medicine & Sciences, registered in 2001 under Indian Trusts Act, 1882.

This is an open access article distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Cite this article as: Aditya Kumar Gupta. Assessment of Prevalence and Clinical Profile of Hypotension among Patients Visiting Tertiary Care Center: An Observational Study. *Int J Med Res Prof.* 2018 May; 4(3):273-75.

DOI:10.21276/ijmrp.2018.4.3.060