

Orthostatic Hypotension About 120 Cases: Experience of the Cardiology Department of the Ibn Sina University Hospital in Rabat

Bouazaze M, Sayarh S, Benjelloun H, Fellat N, Fellat R

Department of Medicine, Mohamed V of Rabat, Morocco

*Corresponding author: Bouazaze Marouane, Department of Medicine, Mohamed V of Rabat, Morocco. Email: marouane.bouazaze@gmail.com

Received: July 09, 2021

Published: July 29, 2021

Introduction

Orthostatic hypotension is defined as a lasting drop in blood pressure of at least 20mmHg of systolic blood pressure and / or at least 10mmHg of diastolic blood pressure occurring during orthostatism [1-3]. It's the inability of the baroreflex to maintain arterial blood pressure when standing.

A widespread problem in the elderly population. It may be primary in the context of pure autonomic dysfunction or multiple systemic atrophy, or it may be secondary to other disease processes.

Methods

This is a mono-centric observational retrospective study carried out in the cardiology department A of the Ibn Sina University Hospital in Rabat, including 120 patients with orthostatic hypotension. They all benefited from an exploration of the autonomic nervous system including Deep Breathing (DB), Hand-Grip (HG), Mental Stress (SM) and orthostatic tests.

Results

The average age was 55 with extremes of 10 to 80.

-This series included 120 cases including 68 women and 52 men.

-The functional symptoms reported by the patients were rich and varied: Cardiovascular disorders are the most frequent. They are present in 42% of patients (hypotension, blood pressure instability, arrhythmias, dyspnea on exertion, atypical chest pain, syncope, faintness, palpitations).

- Subjects suffering from orthostatic intolerance represent 21% of patients. Among its signs, vertigo is the most common, it is reported by 13% of subjects.

-The general signs are less frequent dominated by asthenia. Profuse sweating and pallor have also been reported by our patients.

-Digestive and genitourinary disorders are exceptionally encountered. They represent respectively 3% and 5%.

-In 15% of patients, the nature of the functional dysautonomic signs was not specified.

-The average heart rate is 66 bpm, that of the 30 min PAM is 92mmHg, that of the 30 min PAS is 126 mmHg and that of the 30 min PAD is 68 mmHg.

70% of cases have a HR between 60-90 bpm, bradycardia is

present in more than 1/4 of patients, while tachycardia is found in 2% of patients.

-SAP is between 95 and 139 mmHg at 72%. Hypertensives represent 24%, hypotension is encountered in 4% of patients.

-During the various cardiovascular tests exploring the ANS (DB, HG and TO), the means of the vagal responses were:

- DB (Deep breathing): 32%
- HG (Hand grip) of the 15 sec: 18%
- TO (Orthostatic test): 20%

-The disturbance of the vagal response is found in 90% of patients whose hyperactivity is found in 57%, particularly during the orthostatic test

-The mean peripheral α sympathetic response is 11%.

-The means of the central α and β sympathetic response are respectively 20% and 16%.

-During mental stress, the response concerning sympathetic stimulation shows that 3/4 of patients have central α sympathetic hyperactivity while half of patients have central β sympathetic hyperactivity.

-During Hand Grip, peripheral sympathetic α activity is increased in 45% of cases, while deficiency is encountered in 1/4 of patients.

Discussion

Manifestations associated with orthostatic hypotension can take many forms. The autonomic study in these patients found several disturbances of the autonomic nervous system including a

sympathetic impairment and vagal hyperactivity. The same results were found in the study by Benjelloun H et al. [4]

Conclusion

Orthostatic hypotension is a common and often unrecognized problem, affecting especially the elderly population. The diagnosis can be made, most of the time, by a detailed history and a careful physical examination including blood pressure measurement in different positions of the body.

At the end of our study, we see the importance of the information provided by the exploration of the autonomic nervous system in understanding the different aspects of orthostatic hypotension. Several factors seem to induce the drop in blood pressure and make it worse.

References

1. Benjelloun Halima, Abouddrar S. Cardiovascular autonomic reflexes on the postural orthostatic tachycardia syndrome.
2. Sheldon RS, Grubb BP, Olshansky B, Shen W-K, Calkins H, Brignole M, et al. Heart rhythm society expert consensus statement on the diagnosis and treatment of postural tachycardia syndrome, inappropriate sinus tachycardia, and vasovagal syncope. *Heart Rhythm*. 2015; 12(6): e41-63.
3. Garland EM, Celedonio JE, Raj SR. Postural Tachycardia Syndrome: Beyond Orthostatic Intolerance. *Curr Neurol Neurosci Rep*. sept 2015; 15(9): 60.
4. Benjelloun H, Abouddrar S, Jroundi I, Benjelloun-Bennani H, Coghlan L, Benomar M. Les réponses sympathiques dans l'hypertension artérielle essentielle. *Annales de Cardiologie et d'Angéiologie*, 2009; 58(3): 139–143. doi: 10.1016/j.ancard.2008.05.023