Diagnosis Under Pressure: An Unusual Case of Orthostatic Hypotension

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ABSTRACT

A 75-year-old man with a history of BPH and squamous cell carcinoma of the tongue, presented to hospital with a one-month history of recurrent falls associated with orthostatic lightheadedness. On initial examination he had a blood pressure (BP) of 132/75 and heart rate (HR) 86 while supine and BP 101/54, HR 88 while standing. Physical exam revealed a left neck mass, and computed tomography confirmed a large left nodal mass with encapsulation of the left carotid artery. He was not a surgical candidate and had symptomatic improvement with midodrine and fludrocortisone. This case highlights a unique cause of orthostatic hypotension due to mechanical disruption of blood supply and autonomic innervation, and exemplifies the lack of compensatory tachycardia with autonomic dysregulation.

RESUME

Un homme de 75 ans ayant des antécédents d’HBP et de ysregula spinocellulaire de la langue s’est présenté à l’hôpital avec des antécédents d’un mois de chutes récurrentes associées à des vertiges orthostatiques. Lors de l’examen initial, il avait une tension artérielle (BP) de 132/75 et un rythme cardiaque (HR) de 86 en position couchée et une BP de 101/54, HR 88 en position debout. En évaluant les causes communes, une tomographie informatisée de la tête/cou a révélé une grande masse nodale gauche avec encapsulation de l’artère ysregu gauche. Il n’était pas un candidat à la chirurgie et présentait une ysregulatio symptomatique grâce à la midodrine et à la fludrocortisone. Ce cas met en ysregul une cause unique d’hypotension orthostatique due à une perturbation mécanique de l’approvisionnement en sang et à une innervation autonome, et illustre l’absence de tachycardie compensatoire avec ysregulation autonome.
**Case Description**

Mr. M, a 75-year-old gentleman with a history of benign prostatic hyperplasia (BPH) and squamous cell carcinoma of the tongue, presented to hospital with a 1-month history of recurrent falls associated with orthostatic lightheadedness. His medications were tamsulosin and morphine as needed. On initial examination, he had a blood pressure (BP) of 132/75 and heart rate (HR) 86 while supine and BP 101/54, HR 88 while standing. On head and neck exam he was found to have a large left neck mass which was solid and nontender, measuring 8 × 10 cm. Cardiovascular, respiratory, and abdominal examination were noncontributory. Extensive diagnostic workup ruled out evidence of neurodegenerative disease, adrenal insufficiency, or peripheral neuropathy. A CT head/neck was subsequently performed, revealing a large left nodal mass with encapsulation of the left carotid artery.

Initially, he was supported with aggressive intravenous fluid administration and discontinuation of both tamsulosin and morphine. A surgical consultation was obtained and given the location of the left nodal mass, he was deemed not a surgical candidate and conservative management was recommended. Clinically, his orthostatic symptoms persisted, and a trial of salt tablet replacement was started with some improvement of symptoms, however, it was not until he was started on midodrine and fludrocortisone that his orthostatic symptoms resolved.

**Discussion**

Orthostatic hypotension is defined as either an increase in HR of ≥ 30 bpm, a decrease in systolic BP ≥ 20 mmHg or a decrease in diastolic BP of ≥ 10 mmHg, within 3 min of standing from a sitting or supine position. The prevalence of orthostatic hypotension increases with age, affecting 16% of people over 65 years old. The most common etiologies include volume depletion, autonomic and endocrine dysfunction, cardiovascular disease, medications (predominately antihypertensives, antiadrenergics, anticholinergics, and antidepressants), and alcohol. Patients with documented orthostatic hypotension should undergo a thorough diagnostic workup including complete history and physical, medication review, routine bloodwork, ECG, 24-h urine sodium excretion, and autonomic function testing. Functional cardiac evaluation and imaging should be considered in the appropriate clinical context. In patients with a history of malignancy, carotid bulb dysfunction due to mass compression, or previous radiation remain important potential causes.

Treatment of orthostatic hypotension requires a multisystem approach beginning with patient education on falls prevention, dietician evaluation, and a slow taper of offending medications, if necessary. If the patient does not have a history of cardiovascular disease, salt tabs can be trialed. In patients who fail conservative therapy, fludrocortisone, midodrine, droxidopa and pyridostigmine have been shown to be effective. This case highlights a unique cause of orthostatic hypotension due to mechanical disruption of blood supply and autonomic innervation, and exemplifies the lack of compensatory tachycardia with autonomic dysregulation.

**References**