Initial orthostatic hypotension as a cause of recurrent syncope: a case report

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We studied a 60-year-old man who had six months of recurrent unexplained syncope. The episodes occurred suddenly, usually on standing up. The patient was taking pipamperone (a neuroleptic), fluvoxamine (an antidepressant), and clobazam (a benzodiazepine) for depression, and sotalol and acenocoumarol for paroxysmal atrial fibrillation. The patient had been recently hospitalized after a syncopal episode that occurred on standing from the squatting position. The episode was accompanied by myoclonic jerks and a large hematoma in the lumbar region. During the patient's two-week hospital stay, his test evaluations, including physical examination, electrocardiography, echocardiography, and blood analysis, were entirely negative. Results of investigation by the consultant in neurology were normal as well. During 24-hr electrocardiography monitoring, sinus rhythm was observed during episodes of near syncope. In one instance, the patient's BP decreased from supine values of approximately 100/70 mm Hg to values approximately 80 mm Hg systolic after 2 to 3 minutes of standing, but there were no accompanying symptoms of near-collapse and this finding could not be reproduced. The patient was referred to the syncope unit of the Academic Medical Center for tilt-table testing.

The patient reported severe lightheadedness and near-syncope, which occurred reproducibly on arising from the lying or sitting position several times a day. The symptoms usually disappeared within one minute. Movements of the head and neck did not elicit symptoms of near-syncope. Accordingly, an active standing-up maneuver was performed to test initial orthostatic adjustment [1]. Supine brachial BP was 109/59 mm Hg, and simultaneous noninvasive finger BP (using a Finapres device; TNO-TPD Biomedical Instrumentation [BMI], Amsterdam, The Netherlands) was 85/43 mm Hg. Heart rate was 55 beats/min (Fig. 1). After standing, systolic BP almost immediately decreased to less than 40 mm Hg (by Finapres) with a reflex increase in heart rate. The patient reported lightheadedness, which lasted for only 20 seconds and then gradually disappeared as his BP rose.

During a second standing-up maneuver, an almost identical BP was observed. On standing from a squatting position, an even larger decrease in finger arterial pressure (from 120/75 to 40/30 mm Hg) and near fainting was observed. The patient recognized his symptoms as those that preceded his syncopal episodes.

The patient received an explanation about the cause of his syncope, that it was initial orthostatic intolerance, related to the use of antidepressants, and he was advised to arise slowly from supine positions. Changing his medications was problematic because of the severity of his psychiatric disorder, and therefore orthostatic symptoms, including syncope, remained a significant problem.

Comments

Most people have experience with a brief feeling of lightheadedness 5–10 seconds after standing, especially after prolonged supine rest. Such common episodes of lightheaded-
ne are caused by a transient decrease in systemic BP, which occurs on active standing, but not on passive head-up tilt [1-3]. This initial transient decrease in BP is ascribed to vasodilatation in the active muscles during standing and characterized by its time of onset and short duration. The transient decrease in systemic BP does not increase with age, and a decrease up to 40 mm Hg systolic and 20 mm Hg diastolic is considered normal (95% confidence limits obtained in 74 healthy subjects aged 10-86 y) [4]. Larger decreases in BP are considered abnormal [1].

Recent studies have reported that an abnormally large initial decrease in BP occurs in a variety of conditions that affect arterial baroreflex control of sympathetic activation of resistance vessels; for example, in patients with deafferentated carotid sinus baroreceptors after neck surgery (impairment of afferent pathways), and in subjects receiving clonidine (blockade of central pathways) [1]. Symptomatic initial orthostatic hypotension is also reported to occur frequently in young subjects with a tendency to faint, but the site of the lesion in the baroreflex arc in these subjects remains to be determined [3,5].

The patient's description of his episodes of fainting in-