Orthostatic Hypotension

Key Points

Orthostatic hypotension is estimated to be present in 20 percent of older adults (Fitzgerald, 2010).

Orthostatic hypotension predisposes older adults to an increased risk of falls.

Orthostatic hypotension may be classified as acute or chronic, and symptomatic or asymptomatic.

Overview

Orthostatic hypotension is a decrease in systolic blood pressure of greater than or equal to 20 mm of mercury, or a decrease in the diastolic pressure of greater than or equal to 10 mm of mercury when a patient changes from a recumbent or sitting position to a standing position (Lanier, Mote & Clay, 2011).

Normally, when a person assumes an upright position, the autonomic nervous system signals an increase in lower extremity venous constriction and heart rate to compensate for the postural change. If the patient's autonomic nervous system and/or cardiovascular system do not respond efficiently, the patient may experience a transient decrease in venous return, reduction in cardiac output and a decrease in blood pressure.

Clinical manifestations associated with orthostatic hypotension include dizziness, light-headedness, weakness, headache, fatigue, and in some instances complaints of blurred vision (Fitzgerald, 2010; Lanier et al., 2011).

Causes for orthostatic hypotension include:

- Dehydration
- Medications, such as anticholinergics, loop diuretics, tricyclic antidepressants, calcium channel blockers, alpha-adrenergic blockers, centrally acting antihypertensive, narcotics and sedatives.
- Autonomic insufficiency due to neurological disorder (e.g. Parkinson's Disease, Diabetic autonomic neuropathy)
- Other disease states, such as aortic stenosis, cardiac arrhythmias, CHF, diabetes mellitus, peripheral vascular insufficiency, electrolyte disturbances
- Alcohol misuse
- Prolonged immobility (bed rest)
Assessment

Attain orthostatic blood pressures:

- Have your patient assume a supine position for at least 3 minutes.
- Check the pulse and blood pressure in the supine position.
- Have your patient assume a standing position for at least 3 minutes.
- Check the pulse and blood pressure in a standing position.
- The test is positive if the systolic blood pressure decreases by 20 mm Hg or greater OR the diastolic blood pressure decreases by 10 mm Hg or greater.

Head up tilt table testing can also be utilized for assessment.

Laboratory test to rule out certain medical conditions may be indicated. Examples include basic metabolic panel, complete blood count, glucose and Vitamin B12. ECG or 24 hour Halter monitoring may be indicated when cardiac arrhythmias are suspected.

Intervention

Non-pharmacologic and pharmacologic interventions to consider include:

- Medication Review- eliminate medications that may contribute to orthostasis
- Correct electrolyte imbalances
- Correct cardiac etiologies, for example, cardiac pace maker
- Hydration – educate patient on need for hydration and avoidance of dehydration
- Limit alcohol use
- Compression hose – decrease lower extremity venous pooling
- Abdominal binders
- Postural changes – educate patient on changes in posture; utilizing a multi-step process to go from recumbent to standing position
- Medications are available if other non-pharmacologic measures are unsuccessful. Medications classifications to consider are Fludrocortisone (mineralcorticoestrieroid), and Pyridostigmine (cholinesterase inhibitor).

References


