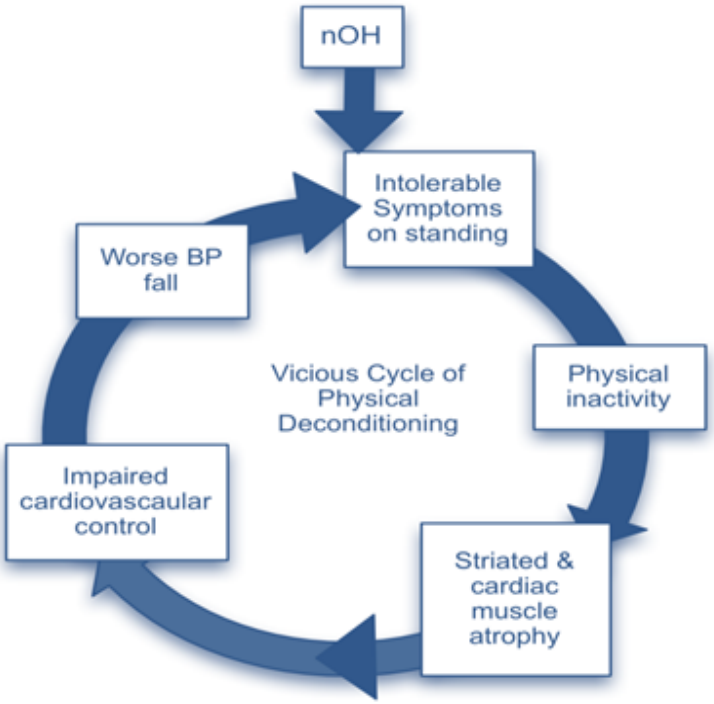
Orthostatic Hypotension (OH)

OH is one of the commonly seen debilitating symptoms in our patients. Normally, when the blood pressure drops in standing, the drop is detected by the baroreceptors in carotid sinus and aortic arch, which triggers the reflex tachycardia and vasoconstriction, bringing the blood pressure back to normal. OH results from a failure in this baroreflex, end organ dysfunction or volume depletion. Medications such as diuretics, alpha adrenoreceptor blockers used for BPH, antihypertensive drugs and calcium channel blockers can also result in OH by interfering with components of baroreflex pathway. [1]

Treating patients with this condition is often challenging. The patients are fearful of the possible unpleasant experience with the episode of OH which includes lightheadedness, dizziness, weakness, headache, tremulousness, nausea, coldness of extremities, chest pain and syncope.[1] In spite of education, we often see patients refusing to change position and so they choose to stay in bed. The picture below clearly explains the consequences of limiting physical activity as a vicious cycle to OH, physical inactivity and OH can be used to educate our patients.



(Picture reference [2]).

Recommendations for OH: A to F.

A: Abdominal compression: An abdominal binder placed on a patient prior to getting out of bed has been shown to prevent a significant drop in blood pressure. An elastic abdominal binder that exerted a 15 to 20 mm Hg of pressure on the abdomen was found to increase the standing blood pressure by 11/6 mm Hg.

B: Bolus of water: Having a patient rapidly drink two 8-ounce glasses of cold water prior to getting out of bed and slowly progress to standing, can significantly improve the plasma volume and was found to increase standing blood pressure by more than 20 mmHg for about 2 hours.

Bed up: Repeated tilting up during the day and leaving the head of the bed elevated at least 4 inches (10-20 degrees) at night attenuates OH gradually due to increase in motor tone in venous vasculature.

C: Counter maneuvers: Contract the lower abdominals and lower extremity muscles for 30 seconds at a time while standing increases total peripheral resistance and augments venous return to heart.

D: Drugs: Midodrine, pyridostigmine, fludrocortisone

E: Exercise within tolerable limits and educate patient on recognizing contributing factors that result in OH (eg: heavy meal, position change, heat, type of exercise).

F: Fluids and salt are essential in maintaining adequate plasma volume.1

Even though treating patients with OH is challenging, it is definitely a rewarding experience if we achieve success with these patients by following the most appropriate and suitable recommendations.

References:

1. Figuero JJ, Basford JR, Low PA. Preventing and treating orthostatic hypotension: As easy as A, B, C. Clev Clin J Med. 2010;77(5):298-306. doi:10.3949/ccjm.77a.09118

2. Palma J-A, Kaufmann H. Epidemiology, Diagnosis, and Management of Neurogenic Orthostatic Hypotension. Movement disorders clinical practice. 2017; 4(3):298-308. doi:10.1002/mdc3.12478.

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