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Editorial Open Access

Prognosis of Orthostatic Hypotension

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Editorial

Orthostatic hypotension is defined as a fall of 20 mm or more in systolic blood pressure or of 10 mm or more in diastolic blood pressure within 3 minutes of standing [1]. All persons receiving antihypertensive drugs routinely should have their blood pressure measured in the sitting position and within 3 minutes of standing [2]. Blood pressure should not be taken immediately after eating as postprandial hypotension may occur at that time [3]. Orthostatic hypotension and postprandial hypotension may coexist, and both disorders are associated with adverse clinical outcomes [3].

Orthostatic hypotension may be associated with advanced age, disorders associated with hypovolemia, hypertension, diabetes, neurological disorders, antihypertensive medications, antidepressants, antipsychotic drugs, anti-parkinsonian medications, alcohol, cardiovascular conditions, endocrine conditions, and other disorders [4]. The prevalence of orthostatic hypotension in older persons, mean age 82 years, in a long-term health care facility was 13% in 257 persons receiving cardiovascular or psychotropic drugs and 3% in those who did not receive cardiovascular or psychotropic drugs [1]. The prevalence of orthostatic hypotension in 4,733 diabetics, mean age 62.1 years, in the Action to Control Cardiovascular Risk in Diabetes (ACCORD) blood pressure trial was 17.8% at baseline, 10.4% at 1 year, 12.8% at 4 years, and 20.0% at 1 or more visits [5]. The prevalence of orthostatic hypotension in 2,636 persons aged 75 years and older, mean age 79.9-years, in the Systolic Blood Pressure Intervention Trial (SPRINT) was 21.0% in persons randomized to a systolic blood pressure below 120 mmHg versus 21.8% in persons randomized to a systolic blood pressure below 140 mmHg [6]. The prevalence of orthostatic hypotension with dizziness was 1.9% in persons randomized to a systolic blood pressure below 120 mmHg versus 1.3% in persons randomized to a systolic blood pressure below 140 mmHg [6].

At 4-year follow-up of 3,522 older Japanese-American men in the Honolulu Heart program, orthostatic hypotension was significantly associated with increased all-cause mortality by 1.64 times [7]. At 4.4-year follow-up of 2,786 community dwelling older Italians, orthostatic hypotension was significantly associated with increased all-cause mortality by 1.23 times, with cardiovascular mortality by 1.41 times, and by non-cardiovascular mortality by 1.19 times [8]. At 22.7-year follow-up of 33,346 persons, mean age 45.7-years, in the Swedish Malmo Preventive Project, orthostatic hypotension was significantly associated with all-cause mortality by 1.21 times, with coronary events by 1.17 times, with stroke by 1.17 times, and by a composite endpoint of death, coronary event, or stroke by 1.18 times [9].

A meta-analysis included 13 prospective studies with 121,913 persons [10]. At 5-year follow-up of 65, 174 persons, orthostatic hypotension significantly increased all-cause mortality by 1.5 times. At 6.4-year follow-up of 49, 512 persons, orthostatic hypotension significantly increased coronary heart disease by 1.41 times. At 6.8 to 24-year follow-up of 50, 096 persons, orthostatic hypotension significantly increased heart failure by 2.25 times. At 6.8-year follow-up of 58, 300 persons, orthostatic hypotension significantly increased stroke by 1.64 times [10].

At 46.9-month follow-up in the ACCORD blood pressure trial, orthostatic hypotension was significantly associated with all-cause mortality by 1.61 times and with heart failure death or heart failure hospitalization by 1.85 times [5].

At 6-year follow-up of 12,433 black and white middle-aged men and women in the Atherosclerosis Risk in Communities study, orthostatic hypotension was significantly associated with coronary heart disease by 1.85 times [11]. At 7.9-year follow-up of 11,707 persons free of stroke and clinical heart disease at baseline in the Atherosclerosis Risk in Communities study, orthostatic hypotension was significantly associated with ischemic stroke by 2.0 times [12]. At 17.5-year follow-up of 12,363 persons free of heart failure at baseline in the Atherosclerosis Risk in Communities study, orthostatic hypotension was significantly associated with heart failure by 1.54 times [13]. At 13-year follow-up of 5,273 persons free of heart failure at baseline in the Cardiovascular Health Study, we reported that orthostatic hypotension was significantly associated with incident heart failure by 1.24 times [14]. Orthostatic hypotension may also cause syncope [4].

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