

Attributed Causes for Syncope in the Elderly

Pages with reference to book, From 145 To 146

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Syncope is defined as transient loss of consciousness accompanied with loss of postural tone and having a spontaneous recovery without intervention. In elderly people, no single cause can be attributed to produce syncope. More often chronic diseases and co-existing conditions as congenital cardiac failure, chronic renal failure, ischaemic heart disease, chronic obstructive airway disease and Diabetes Mellitus together are a cause for the CNS dysfunction leading to syncopal attacks (Silverstein et al., 1982). As cerebral blood flow decreases with age and if this is superimposed with congestive cardiac failure or atherosclerotic vascular disease, the oxygen delivery to the brain tissue is diminished to a critical level to impair consciousness at the slightest stress (McHenry et al., 1961; Scheinberg, 1950). The normal physiological compensatory mechanisms are also decreased with advancing age. The carotid sinus baroreceptors normally respond to hypotension by increasing the heart rate and vascular tone thus maintaining the cerebral blood flow. Aging is associated with progressive irreversible changes in this mechanism. Studies have also shown the aging heart to have a decreased sensitivity to adrenergic stimuli (Rowe and Troen, 1980) thus having an inadequate response to hypoxia, hypercarbia, exercise and cough (Lakatta, 1980). The homeostatic mechanism for maintaining intravascular volume and blood pressure as sodium conservation by the Kidney, (Rowe, 1980) gets impaired in the elderly. Along with this the basal plasma renin and aldosterone levels are decreased, thus making the older person more vulnerable to syncope.

A cardiac cause of syncope is any process which suddenly reduces the cardiac output. Aortic sclerosis due to degeneration and calcification of the Aortic valve cusps can cause significant Aortic stenosis, which in turn may produce syncope (Pomerance, 1981). Hypertrophic cardiomyopathy at times presents as syncope (Flohr et al., 1981; Muntz and Kotler, 1981). The cause is left ventricular outflow obstruction or tachyarrhythmias (Selser and Pasternak, 1981). Myocardial dysfunction which may be secondary to infarction, ischaemia or complete A-V block, leading to a sudden fall in blood pressure and cerebral perfusion can result in syncope. Massive pulmonary embolism with over 50 percent pulmonary artery obstruction and associated with cor pulmonale, hypoxia and hypotension may also present as syncope (Thames et al., 1977). Conduction defects such as ventricular and supraventricular tachy and brady arrhythmias are commonly found in elderly persons. They can only be attributed as a cause of syncope if the symptoms are correlated with the cardiac dysarrhythmias. A study carried out with Holter monitoring on 500 patients revealed only 13 percent of the patients to have an association of syncope with rhythm disturbances (Zeldis et al., 1980).

Sudden hypotension due to acute volume depletion from bleeding, diuresis or dehydration, when the homeostasis mechanism cannot compensate, leads to syncope. Orthostatic fall of blood pressure in the elderly is a known phenomenon and a drop of 20 to 40 mm Hg has been noted (Caird et al., 1973). This impaired postural blood pressure adjustment can lead to syncope especially if it is associated with other pathologies as cerebrovascular disease.

The carotid sinus syndrome is defined as carotid sinus hypersensitivity associated with syncope (Lown and Levine, 1961). Studies have shown that only 33 percent of people with carotid sinus hypersensitivity develop syncope. In these cases, turning of the neck, a tight collar or drugs as digitalis, propranolol or alpha methyl dopa can provoke the attack.

The elderly may have a syncopal episode after vigorous coughing or straining at defecation. During these acts the cardiac output is diminished and the cerebral perfusion is reduced secondary to an increased intra-cranial pressure (Sobel and Roberts, 1980). This leads to hypotension which is presumed to be the cause of syncope. An added factor is the impairment of the cardioacceleration reflex

after coughing, leading to syncopal attacks.

Micturition syncope is emptying a full bladder rapidly which in turn causes reflex vasodilatation. This is usually encountered when the individual assumes an erect posture on rising from a warm bed.

Cerebro-vascular insufficiency giving rise to transient cerebral ischaemia may be seen as syncope. It is usually associated with neurological defects (Engel, 1978). The commonest pathologies are compression of the vertebral arteries by Osteophytes, the subclavian steal syndrome, the vertebral-basilar arterial insufficiency or carotid insufficiency. Syncope may be a sign of seizure disorder in the elderly which is usually secondary to brain tumours or infarcts (Wayne, 1961).

The etiology of syncope in the elderly is multifactorial. A detailed history of the attack alongwith the drug history and a complete physical examination with a laboratory evaluation should enable the physician to locate the cause and treat the patient. The approach should be direct to prevent or reduce the frequency of this morbid episode.

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