

LECTURE PRESENTATION

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The fragility of the hemodynamic balance in the elderly: possible influences on the inner ear

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The possible occurrence of labyrinthine disorders linked to hemodynamic imbalances has been widely outlined [1-4] and well demonstrated by clinical observations concerning both young and healthy people [4] and subjects suffering from cardiovascular affections as hypertension - the prevalence of tinnitus was studied in patients under antihypertensive [5] - or heart failure of variable severity [6]. In all cases, a possible influence of a sharp decrease in the values of blood pressure followed by an abnormal vasomotor reaction was postulated to have some role in the genesis of the disorder, mostly when considering that blood supply of the inner ear is of terminal type. In the elderly, the problem is even more complicated by the frequent presence of isolated systolic hypertension, which is characterized by the lowered compliance of the vascular tree, presenting with an increase of the arterial stiffness and reported to be due both to age-related loss of distensibility in the major central arteries and to endothelial dysfunction [7]: this increases, in general terms, the risk of transient hypoperfusion to an organ with a terminal circulation as the labyrinth and represents a crucial factor to deal with when treating hypertension in elderly. Moreover, the possibility of the so-called "hypertension-hypotension syndrome" [8], i.e. the coexistence of supine hypertension and orthostatic hypotension as a result of dysautonomia [7] represents a further complication in this sense. Hence the necessity of choosing, when possible, an antihypertensive therapy able to protect the endothelial wall and to avoid brusque falls of peripheral oxygenation which could damage the inner ear.

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