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Aetio-pathophysiology of Ménière's disease with a particular reference to the association with migraine and the effect of noise

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Despite extensive research and technological advances, the aetio-pathophysiology of Ménière's disease (MD) remains obscure. A number of factors have been proposed to be implicated in MD, including autonomic nervous system imbalance, endocrine disturbances, vascular irregularities, dietary factors, psychological (stress/anxiety) states, allergic phenomena, autoimmune causes, viral conditions, traumatic events or genetic abnormalities. MD is a condition with the manifestations of a dysfunctional labyrinth, with acute episodes and periods of remissions. However, the underlying mechanism of an acute episode, which is the hallmark of MD and which seems to reflect the state of auditory and vestibular excitation, is still not understood.

According to the current widely accepted view, endolymphatic hydrops (EH) is the fundamental abnormality underlying MD. There is a hypothetical view that a rupture/increased permeability of the membranes lining the endolymphatic space, and a subsequent intermixing of labyrinthine fluids and potassium intoxication, leads to an attack. Although the evidence of EH exists, its essential role has been questioned and a view that EH may be an epiphenomenon has been put forward.

An intriguing clinical feature of MD is its frequent association with migraine and similar symptoms may occur in either condition, as it has been observed in our 120 patients with MD. Furthermore, the presence of overlapping symptoms in some patients can make difficult to distinguish whether presenting symptoms are of Ménière's disease or migraine. The possibility that MD and migraine may have a common background has been considered. This may have important implications for pharmacological treatment of patients with MD and associated migraine.

Another interesting pathophysiological aspect of MD is the effect of noise. Oversensitivity to noise, auditory (loudness discomfort) and vestibular (Tullio phenomenon), have been reported by some patients. There is also a possibility of noise-induced MD. These noise-related phenomena may have medico-legal implications.

