

NEUROTOLOGY COURSE: ABOUT VERTIGO FOR NEUROLOGISTS

NEUROTOLOGY IN NEUROLOGY

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As it is well known, our left and right vestibular apparatus are the beginning points (receptors) of a balance maintenance system which functions by means of two reflex arcs: the vestibulo-ocular and the vestibulo-spinal. All levels of the vestibulo-ocular reflex arc can be analyzed by observing and recording spontaneous or provoked eye movements. Therefore, the level of damage of the vestibular pathways can be defined. This reveals sometimes the etiology and sometimes contributes to the searching for etiology.

In a big percentage of cases, diseases of the vestibular receptor result in spontaneous horizontal eye movements equal on both eyes. Diseases involving Medial Longitudinal Fasciculus (MLF) and adjacent structures in pons, result in failure of gaze maintenance and slowing of eye movements. Those

patients have gaze-evoked nystagmus. The gaze-evoked nystagmus changes its direction with the direction of gaze and it appears with unequal amplitudes on the left and the right eye. If neural structures adjacent to the cranial part of the MLF (nucleus Cajal and rostral interstitial nucleus of MLF) are damaged, the patients have skew deviation and torsional nystagmus. Diseases of the flocculo-vestibular connections result in failure of suppression of the vestibular-evoked eye movements and in consecutive unsteadiness.

By observing the eye movements which are not caused by a disease of the vestibular pathways, but provoked by visual targets, a whole new area of diagnostic possibilities can be uncovered.