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Vestibulometric test for myasthenia

Abstract. Myasthenia is a disease characterized by weakness and pathologic muscular fatigability. Often oculomotor impairment (OI) is the first sign of the disease. In the advanced stage of disease eye mobility restriction and convergence impairment can be revealed, but often there is no clear OI even with present complains of diplopia.

Purpose: to develop method for early diagnosis of ocular myasthenia, which would be based on objective evaluation of weakness and fatigability of the oculomotor muscles.

Materials and methods. 15 patients with suspected ocular myasthenia had been examined, including 12 females and 3 males, with mean age 31.2±3.5 years. At the time of examination diplopia was absent in 7 patients of 15. In all the cases test with neostigmine was negative, there were no obvious OI neither before, nor after classical functional tests, EMG decrement from the m. orbicularis oculi was absent in 100% of cases.

Study was conducted using the "Interacoustics", Denmark, video oculography equipment. We used smooth pursuit test in horizontal, vertical and 2 oblique planes for 20 s with target speed of 6°/c, and (after rest) optokinetic test in vertical and horizontal planes for 20 s with 20°/s stimulation.

Reactivity coefficient Cr, which indicates ratio of optokinetic stimulation frequency to optokinetic nystagmus frequency for 10 s was calculated by the software of the equipment.

Results. Smooth pursuit test revealed OI in 10 cases of 15 (67%). While the pursuit in the oblique plane, deceleration and restriction of eye movements to the side of diplopia emerged with 10±4.3 s latency, Cr was 0.25±0.11%.

Optokinetic test detected OI in 100% of cases while stimulation in horizontal plane. Latency was 9±4.23 s, mean Cr was 0.45±0.21%. Coefficient of differently directed reactions asymmetry was 12.0±1.11% due to the significant decrease in Cr of optokinetic nystagmus to the side of the diplopia reported by the patient.

Conclusion. Employment of video oculography allows to detect, record and quantitatively characterize hidden oculomotor impairment in the patients with suspected ocular myasthenia.

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Результаты сканирующей лазерной поляриметрии у пациентов с отеком диска зрительного нерва и его атрофией

Актуальность. Свойство двойного лучепреломления аксонов ганглионарных клеток сетчатки (АГКС), которое используется в сканирующей лазерной поляриметрии (СЛП) для определения их толщины, имеет ряд важных особенностей в диагностике оптиконейропатий различного генеза. Во-первых, есть доказательства ослабления двойного лучепреломления АГКС в начальной стадии дегенеративного процесса еще до развития их истончения. Во-вторых, вода не обладает свойством двойного лучепреломления, таким образом, следует ожидать разницу в показателях ОКТ и СЛП при отечных формах оптиконейропатий.