

The Effectiveness of Immunomodulating Treatment in Steroid Refractory Multiple Sclerosis

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Introduction. Therapeutic plasma exchange (TPE) has been used to remove immunoglobulin and other immunologically active substances, such as complements or cytokines [Hughes et al., 2007]. That is why TPE could be used in many neurological disorders where the main pathological substrate could be of autoimmune etiology, such as Guillain-Barré syndrome, Myasthenia Gravis and others. However, the benefit of plasma exchange in CNS demyelinating diseases such as multiple sclerosis (MS) is still a matter of debate, mainly due to lack of randomised control trials.

Aim, Material and Methods. All patients were admitted in Riga East University Clinical Hospital "Gailezers", Clinic of Neurology and Neurosurgery, Multiple Sclerosis unit, between January 1, 2011 and January 1, 2016. The group consisted of 11 patients that were diagnosed with relapsing remitting MS according McDonald criteria 2010. All patients presented not the first episode of relapse. Objective neurological status and visual acuity were assessed before, on the second day after the last TPA course and one month later. Disability status was verified using EDSS scale, and muscle strength was evaluated using MRC.

Results. 11 patients were included in the study. Mean age was 27.54 (19–38). The group consisted of 6 men and 5 women. Three patients from MS group received IFN β 1b s/c 6 to 23 weeks (mean 13.3 weeks). On admission all patients had severe neurological dysfunction: 5 patients had paraparesis, sensory deficit and urinal retention, 2 patients had tetraparesis and 3 patients had paresis in only one limb. Expanded disability status scale range was from 4.0 to 8.0. All patients received a 5-day cycle of intravenous methylprednisolone 1000 mg for 5 to 7 days. All patients received 5 TPE procedures, one in a two-day time. The reduction in neurological symptoms was mainly observed after the fifth procedure and was associated with improvement in muscle strength. One patient also had improvement in his visual fields. Unfortunately, nobody had improvement of bowel and urinary dysfunction.

Conclusions. TPE is effective for acute relapse treatment in patients with demyelinating diseases, who did not respond satisfactorily to high dose intravenous methylprednisolone. Despite all clinical observations, further prospective research is necessary to establish the role of TPE in demyelinating disease treatment.