

The benefits of centrifugal plasmapheresis therapy in a clinical case of poliradiculonevritis

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Introduction

Poliradiculonevritis is an acute inflammatory demyelinating neuropathy with autoimmune etiology.

In this study is presented a poliradiculonevritis clinical case finally treated by plasmapheresis after an unsuccessful immunoglobulin therapy. (Revista de Medicină de Urgență, Vol. 4, Nr. 1: 23)

Material and methods

35 years old patient was diagnosed at the end of November 2005 with a viral infection. She was hospitalized in another medical institution in Bucharest, having weakness of the lower limbs which progressed to chest level.

Following complex investigations at the beginning of December, the patient has been diagnosed with acute poliradiculonevritis. Immunoglobulin was immediately administered following the diagnosis. In the first month it has a positive result but after a while the symptoms reappeared.

In February the patient was admitted in the ICU II Toxicology.

On admission, the patient is conscious, responds to orders, hemodynamic and respiratory stable. She had paraesthesias from the lower limbs to the chest level, sensory loss; the cranial nerves were involved with bilateral facial palsy, speaking disorders, motor deficits.

The serum level detection of the immunoglobulin (Ig) showed a high level of IgM.

By flow-cytometry were investigated the peripheral blood lymphocytes set and subsets using Simultest IMK-plus kit before and after the 1st plasmapheresis.

The treatment consisted of 2 sessions of plasmapheresis, albumins, FFP, gastric protection and adequate diet.

Plasmapheresis was made with an Haemonetics PCS Plus equipped with Plasma Collection Set Haemonetics REF 535 and anticoagulant Macroflex AM 16.

Results and discussions

After the 1st day plasmapheresis, amelioration of sensory and motor symptoms has been noticed. The immunological parameters detected, showed an increased percent value of the B lymphocytes (CD19+) before therapy and the decreased of them after plasmapheresis. The T lymphocytes set and subsets (Th CD3+/CD4+, Tc/s CD3+/CD8+), the NK cells (CD3-/CD16-56+) and the percent of activated T cells (Cd3+/HLA-DR+) were not significant modified.

After 14 days since hospitalization, the 2nd plasmapheresis session took place.

After this session the neurological symptoms disappeared, concomitant with the medical recovery. As a result the patient left after 28 days.

Conclusions

The immunoglobulin therapy showed short time positive effects.

Improvement of sensory and motor symptoms was observed starting after the first plasmapheresis session. The immunophenotyping of peripheral blood lymphocytes sets and subsets showed a significant decreased of B lymphocytes (CD19+) suggesting an inhibitory effects of plasmapheresis on this cells. At these cases, it was observed no significant differences in the percent of T lymphocytes (CD3+) set and subsets (Th CD4+, Tc/s CD8+) and of NK cells (CD3-/CD16-56+). Also the percent of T activated cells (CD3+/HLA-DR+) was not significant modified.

After the 2nd session of plasmapheresis the neurological symptoms disappeared.

In this clinical case the centrifugal plasmapheresis proved more efficient vs. immunoglobulin therapy.

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