

Therapeutic Plasma Exchange in the Intensive Care Units - 5- years retrospective analysis in Three different Hospital Centres

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Abstract

Background: Therapeutic plasma exchange (TPE) is an invasive procedure, which is used as sophisticated life-saving therapy. It is indicated in conditions such as neurological, nephrological, pulmonary complications of autoimmune diseases which may cause cardio-respiratory failure. The most common complications of TPE are hemodynamic instability and infections.

Material/Methods: A retrospective analysis of 56 patients treated with TPE in following intensive care units (ICU) departments: MSWIA Katowice, Clinical Hospital nr1 and Silesian Centre Heart Diseases in Zabrze 01.2019 and 11.2024 was conducted. The aim was to find risk factors of TPE success or failure.

Results: Patients underwent TPE due to myasthenia gravis (MG) 17(30.36%), Guillain-Barré syndrome 16(28.57%), neuromyelitis optica 7(12.5%), granulomatosis with polyangiitis 5(8.92%), COVID-19 2(3.57%) and others 9(16.07%). TPE was performed 5 IQR=1 (3-5) times and median length of hospitalisation was 7 days IQR 11.5(5-32). In 33 (58.92%) patients complications were observed. 39(69.64%) patients received antibiotic therapy. Clinical improvement after TPE was observed in 41(73.21%) patients and in the MG group was significantly higher than other conditions($p=0.01$). Mortality was 5(8.92%).

Conclusions: ICU's are particularly well-suited for plasmapheresis in unstable patients enhancing safety and reducing complication, however due to increased infection risk precaution still needs to be conducted.

Keywords: TPE, ICU, respiratory therapy