

ABSTRAK

Latar Belakang: Myasthenia gravis (MG) adalah kelainan neurologis autoimun terhadap reseptor asetilkolin (AChRs). AChE inhibitor tetap menjadi terapi standar untuk MG, namun sekitar 10-20% pasien Myasthenia gravis tidak merespons terapi standar secara adekuat. *Therapeutic plasma exchange* (TPE), atau *plasmapheresis*, menjadi pengobatan lini kedua yang diindikasikan untuk kasus refrakter.

Tujuan: Menganalisis efikasi *therapeutic plasma exchange* (TPE) berdasarkan Myasthenia Gravis Composite Scale dan lama rawat inap pasien Myasthenia Gravis di Rumah Sakit Kariadi pada tahun 2020-2023

Metode: Penelitian observasional analitik dengan desain *pretest and posttest* retrospektif terhadap rawat inap pasien Myasthenia Gravis di Rumah Sakit Kariadi pada tahun 2020-2023. Subjek penelitian didapatkan dengan metode *simple random sampling* menggunakan data dari rekam medik RSUP dr. Kariadi Semarang. Efikasi *therapeutic plasma exchange* (TPE) dievaluasi berdasarkan Myasthenia Gravis Composite Scale (MGCS) dan lama rawat inap. Pasien mengalami perbaikan skor MGCS apabila terjadi penurunan skor ≥ 3 poin paska TPE. Analisis dilakukan menggunakan uji Dependent t-test, Independent t-test, Wilcoxon, Mann-Whitney, Chi-square dan Fisher exact dengan aplikasi SPSS edisi 29. Hasil signifikan apabila $p < 0.05$.

Hasil: Skor MGCS pasien Myasthenia Gravis secara signifikan mengalami penurunan antara sebelum dan setelah *therapeutic plasma exchange* (TPE) ($p < 0.001$). Lama rawat inap secara signifikan lebih cepat didapatkan pada subjek yang menjalani frekuensi TPE $< 4x$ ($p = 0.009$). Tidak terdapat perbedaan signifikan skor MGCS pasien Myasthenia Gravis berdasarkan frekuensi TPE ($p = 0.290$ dan $p = 0.514$) dan tidak terdapat perbedaan signifikan lama rawat inap berdasarkan skor MGCS pada pasien Myasthenia Gravis yang menjalani TPE ($p = 0.733$ dan $p = 0.056$).

Simpulan: Tindakan *therapeutic plasma exchange* (TPE) secara signifikan berhubungan dengan penurunan skor MGCS dan lama rawat inap yang lebih pendek pada pasien Myasthenia Gravis.

Kata kunci: Myasthenia gravis, lama rawt inap, Myasthenia Gravis Composite Scale, *Therapeutic plasma exchange*

ABSTRACT

Background: Myasthenia gravis (MG) is an autoimmune neurological disorder against acetylcholine receptors (AChRs). AChE inhibitors remain the standard therapy for MG, but approximately 10-20% of MG patients do not respond adequately to standard MG therapy. Therapeutic plasma exchange (TPE), or plasmapheresis, is the second-line treatment indicated for refractory cases.

Objective: To analyze the efficacy of therapeutic plasma exchange (TPE) based on the Myasthenia Gravis Composite Scale and the length of hospitalization of Myasthenia Gravis patients at Kariadi Hospital in 2020-2023

Method: An observational analytical study with a retrospective pretest and posttest design on hospitalization of Myasthenia Gravis patients at Kariadi Hospital in 2020-2023. The study subjects were obtained using the simple random sampling method using data from the medical records of Dr. Kariadi Hospital, Semarang. The efficacy of therapeutic plasma exchange (TPE) was evaluated based on the Myasthenia Gravis Composite Scale (MGCS) and length of hospitalization. Patients experienced an improvement in MGCS scores if there was a decrease in score > 3 points after TPE. Analysis was performed using the Dependent t-test, Independent t-test, Wilcoxon, Mann-Whitney, Chi-square and Fisher exact tests with the SPSS 29th edition application. Significant results if $p < 0.05$.

Results: The MGCS scores of Myasthenia Gravis patients significantly decreased between before and after therapeutic plasma exchange (TPE) ($p < 0.001$). Length of hospitalization was significantly shorter in subjects who underwent TPE frequency $< 4x$ ($p = 0.009$). There was no significant difference in MGCS scores of Myasthenia Gravis patients based on TPE frequency ($p=0.290$ and $p=0.514$) and there was no significant difference in length of hospitalization based on MGCS scores in Myasthenia Gravis patients undergoing TPE ($p=0.733$ and $p=0.056$).

Conclusion: Therapeutic plasma exchange (TPE) was significantly associated with decreased MGCS scores and shorter length of hospitalization in Myasthenia Gravis patients.

Keywords: Myasthenia gravis, length of stay, Myasthenia Gravis Composite Scale, Therapeutic plasma exchange