Introduction:
Therapeutic plasma-exchange (TPE) represents the treatment of choice in many immune pathologies. The aim of this study was to assess the effect of TPE on coagulation in normal subjects.

Methods:
We prospectively included 20 patients who underwent TPE with 65 ml/kg fresh frozen plasma for Myasthenia gravis. Patients with pre-existing coagulation disorders, pro-haemostatic or anti-haemostatic treatment were excluded. Standard coagulation tests (activated partial thromboplastin time – aPTT, prothrombin time – PT, International Normalized Ratio - INR), fibrinogen levels, platelet count and rotational thromboelastometry (ROTEM) were performed before and after each session. Three ROTEM tests were performed: ExTEM, InTEM and FibTEM. For each test the following parameters were recorded: clotting time (CT), clot formation time (CFT), maximum clot firmness (MCF), alpha angle, thrombin potential index (TPI), maximum velocity of clot formation (MaxV), time to MaxV (MaxVt) and area under the curve (AUC).

Results:
The mean age in our study group was 54±22 years. The effects of TPE on standard coagulation were increased aPTT (24±2 to 36 ± 6 s, p=0.005) and decreased fibrinogen levels (286±76 to 242±48 mg/dL, p=0.008). A non-significant decrease in platelet count was observed (160333±23091 to 151133±22244 /mm3, p=0.662). On ROTEM parameters TPE was associated with increased CT in ExTEM (57±8 to 73±12 s, p=0.030) and InTEM (156±15 to 194 ±52 s, p=0.003) and increased MaxVt on ExTEM (90± 27 to 128 ± 37 s, p=0.031) and InTEM (177±17 to 225±71 s, p=0.003). All other ROTEM parameters changed non-significantly. The decrease observed in fibrinogen levels was not associated with a decrease in FibTEM MCF (15±2 to 14±2 mm, p=0.414).

Conclusion:
Our results demonstrate that TPE is associated with minimum changes in clot kinetics initiation that do not result in either pro- or anti- coagulant changes. Therefore, TPE with fresh frozen plasma can be safely used in normal subjects.