Introduction:
Hemophagocytic lymphohistiocytosis (HLH) is a life threatening condition caused by excessive stimulation of lymphocytes and histiocytes that secrete inflammatory cytokines. In this study, the effect of therapeutic plasma exchange in HLH and MAS has been observed.

Methods:
The patients who were diagnosed with HLH and MAS in PICU, were included in this study. The Age, sex, PRISM scores, diagnosis, the length of hospital stay, C-reactive protein and procalcitonin levels, thrombocyte counts, fibrinogen and ferritin levels, neutrophil and lymphocytes counts, hemoglobin, triglycerides, d-dimer and albumin levels and the need for therapeutic plasma exchange of the patients were noted.

Results:
Twenty male(74.1%) seven female(25.9%) 27 patients were included in the study. The median age of the patients was 3.5(0.6-5.8), the length of hospital stay was 11(5.0-22.0). Genetic causes existed in 13 patients(48%), 6(22.2%) of the patients had causes secondary to infections, 5 of them(18.5%) had rheumatologic causes, and 3 (9.3%) of them had other causes. Therapeutic plasma exchange was performed on 21( 81.5%) patients. Intravenous immunoglobulin was given to 19(70.4%) of them. Eight (36%) patients in the plasmapheresis group and 1( 20%) patient who was not in the group died. The standard mortality rate (observed/expected mortality) of the patients who were not in the plasmapheresis group was 1.74, higher than of the ones in the plasmapheresis group (1.52). The incidence of death of the ones whose albumin levels were under 2.49 was 32.9 times higher than the ones whose levels were above 2.49 (p:0.001). There was no related mortality except for the albumin levels.

Conclusion:
Although there was no statistically meaningful difference in terms of mortality in between the two groups, the calculated standard mortality rate was higher in the patients who did not have plasmapheresis. These results need to be supported with wider studies since the number of cases were not enough in our study.