Introduction:
CHDF using with a polymethymethacrylate membrane is currently widely applied for non-renal indications in Japan, this technique is used in the treatment not only of patients with sepsis but also of those with cytokine-induced critical illness such as ARDS and pancreatitis. This study aimed to investigate the clinical efficacy of PMMA-CHDF in the treatment of a patients with sepsis and ARDS.

Methods:
Seventy-five patients diagnosed with sepsis (ARDS [n=30], Pyelonephritis [n=10], Cholangitis [n=10], Tsutugamusi in Scrub typhus disease [n=1], Snake Mamushi biten [n=1], haemophagocytic syndrome [n=1], anti neutrophil cytoplasmic antibody (ANCA) lung disiese [n=1], beriberi heart disease [n=1] and unknown causes [n=18]) were enrolled in this study between August 2010 and March 2017. The common cause for ARDS in elderly patients aspiration pneumonia in elderly patients.

Results:
Following initiation of PMMA-CHDF treatment, early improvement of haemodynamics was observed, along with an increase in the urine output. The average survival rates of patients were 75.6%. The low survival rate among diseases 35% belonged to the Unknown group. The highest survival rate for patients with ARDS was 95%. Moreover, the urine output significantly increased in survival group.

Conclusion:
The present study suggests that cytokine-oriented critical care using PMMA-CHDF might be effective the treatment of sepsis and ARDS, particularly, in the treatment of ARDS associated with aspiration pneumonia in elderly patients.