Introduction:
ARDS may result from various diseases and is characterized by diffuse alveolar injury, lung edema formation, neutrophil-derived inflammation and surfactant dysfunction. Various biomarkers have been studied in diagnostics and prognostication of ARDS. The purpose of the study was to measure the expression of proinflammatory mediators like IL-8 and TNF, a cellular receptor with a role in innate immunity (TLR-2), and a biomarker of fibrogenesis (MMP-7) in different phases of ARDS patients.

Methods:
We studied 4 patients admitted to our ICU with diagnosis of ARDS during the month of January 2016. Six ml of blood were prospectively collected at two times: during the acute phase and in a sub-acute phase before ICU discharge. Blood samples were centrifuged to obtain the platelet-rich plasma and plasmatic RNA (cRNA) was isolated from platelets. IL-8, TNF, TLR-2 and MMP-7 expression in cRNA was determined by the Droplet Digital™ PCR as copies/ml.

Results:
All patient showed a decrease in IL-8, TNF, TLR2 and MMP-7 levels after the acute phase of ARDS (Figure 1). Patient 1 and 3 were affected by influenza A virus (H3N2), patient 2 was admitted for pneumococcal pneumonia and patient 4 was affected by Legionella. Adequate ethiologic treatment was promptly started in patients with bacterial infection. Mean duration of mechanical ventilation was 17.5 days. All patient survived ICU stay and were discharged from hospital.

Conclusion:
IL-8, TNF, TLR-2 and MMP-7 expression detected by extracted platelets RNA, may be a novel tool useful for clinicians indicating persistent inflammation with resulting progressive alveolar fibrosis and impaired lung function. More data are necessary to understand the real clinical significance of this biomarkers and their role in fibroproliferation and progression of ARDS.