A326 - Course of conjunctival microcirculatory changes in patients with sepsis

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Introduction:
The aim of the study was to detect the difference of conjunctival microcirculation between septic patients and healthy subjects and evaluate the course of conjunctival microcirculatory changes in survivors and non-survivors over a 24 hours period of time.

Methods:
This single-centre prospective observational study was performed in mixed ICU in a tertiary teaching hospital. We included patients with sepsis or septic shock within the first 24 hours after ICU admission. Conjunctival imaging using IDF videomicroscope as well as systemic hemodynamic measurements were performed at three time points: at baseline, 6 hours and 24 hours later. Baseline conjunctival microcirculatory parameters were compared with healthy control.

Results:
A total of 48 patients were included in the final assessment and analysis. Median APACHE II and SOFA scores were 16 (12-21) and 10 (7–12) respectively. 44 (92%) were in septic shock, 48 (100%) required mechanical ventilation. 19 patients were discharged alive from the intensive care unit.
We found significant reductions in all microcirculatory parameters in the conjunctiva when comparing septic and healthy subjects. We found a significant lower proportion of perfused vessels and microvascular flow index (MFI) of small vessels during all three time points in non-survivors compared with survivors. In non-survivors we observed no significant changes in conjunctival microcirculatory parameters over time. However, survivors had significantly improved MFI of small vessels at second and third time points compared to first time point.

Conclusion:
Microcirculatory perfusion in conjunctiva was altered in septic patients. Over 24 hours evaluation survivors in comparison with non-survivors had better microcirculatory flow with incremental improvement of microvascular flow index.