**Introduction:**
It is already known in literature that high levels of midregional proadrenomedullin (MRproADM) are related with organ dysfunction in infections despite of source and pathogens. Similarly, microcirculatory impairment has been reported in sepsis. We examine the correlation between microcirculatory dysfunction and MRproADM as a sign of early organ failure.

**Methods:**
We included 20 consecutive adult patients with suspected infection, sepsis or septic shock admitted to our Intensive Care Unit (ICU) as first hospital admission with an expected ICU stay of > 24hours. MRproADM was measured daily during the first five consecutive days and sublingual microcirculation was assessed with Incident Dark Field (IDF) technology at T1, T2, and T5. We collected information on SAPS II, APACHE scores, and SOFA score for each timepoint.

**Results:**
Ten patients had septic shock, 5 sepsis and 5 infection. Three patients died during ICU stay. A MRproADM clearance of 20% or more between T1 and T2 was found associated with the improvement of MFI (Mann-Whitney U test, median increase 12.35% versus 2.23%, p=0.005). A MRproADM >1.42 nmol/l at the ICU admission was associated with a worse SOFA score at all the timepoint. Moreover, MRproADM levels at admission was found significantly related with ICU mortality (AUC 0.941 [0.819-1]; p=0.017). MRproADM shown no relation with absolute value of MFI.

**Conclusion:**
The study shows a good correlation between the clearance of the biomarker and the improvement in MFI. Moreover, our results support previous findings on the prognostic value of MRproADM in terms of SOFA and ICU-mortality.

**References:**
Onal et al. Healthcare, 2018
Angeletti et al. Disease Marker, 2015
A): Percentage of variation for MFI of small vessels in the first 24 hours of evaluation, in the 2 groups of patients (clearance of MR-proADM inferior-to-equal or higher than 20%). P=0.005 B): ROC curves - SOFA score day1-to-day5 in patients with MR-proADM >1.42 nmol/l at admission in ICU. SOFA-D1: AUC 0.933 [0.807-1], p=0.009; SOFA-D2: AUC 0.975 [0.911-1], p=0.004; SOFA-D3: AUC 0.8 [0.601-0.99], p=0.072; SOFA-D4: AUC 0.875 [0.718-1], p=0.024; SOFA-D5: AUC 0.875 [0.716-1], p=0.024. SOFA score = Sequential Organ Failure Assessment score.