Introduction:
Serum levels of tyrosine kinase receptor Mer and its ligand Gas6 predict mortality in septic patients in the intensive care unit. However, whether their early measurement at emergency department (ED) presentation also predicts mortality and organ failure still needs to be clarified.

Methods:
In this multicentre observational study, septic patients admitted to 5 Italian EDs were included [1]. At ED presentation blood samples were taken for routine biochemical analyses and serum Mer and Gas6 measurement. Urinalyses, blood gas analyses and chest X-ray were routinely performed. Mortality at 7 and 30 days, as well as the presence of organ damage such as acute kidney injury (AKI), thrombocytopenia, PT-INR derangement and sepsis-induced coagulopathy (SIC) were evaluated according to baseline levels of Mer and Gas6.

Results:
890 septic patients were enrolled between March 2013 and March 2015. 7 and 30-day mortality were 9.7% and 19.9%, respectively. Mer and Gas6 baseline levels were 31.1[23.2–43.5]ng/mL and 8.3[4.0–14.4]ng/mL each, and no difference was observed between survivors and non-survivors, at both 7 and 30 days (p>0.05). AKI patients showed higher Mer and Gas6 levels compared to the non-AKI ones (9.8[4.1–17.8] ng/mL and 34.8 [26.4–47.5] vs. 7.9[3.8–12.9]ng/mL and 29.8[22.1–41.6]ng/mL, respectively; p<0.01). However, at the multivariate analysis neither Mer nor Gas6 were confirmed as AKI predictors. On the contrary, both Mer and Gas6 independently predicted thrombocytopenia in septic patients (OR 1.01[1.00-1.02] and 1.04[1.02-1.06], respectively). Moreover, Mer emerged as an independent factor for developing both PT-INR derangement (OR 1.03[1.00-1.06]) and SIC (OR 1.05[1.02-1.07]) (p<0.001).

Conclusion:
In conclusion, neither Mer nor Gas6 are early predictors of mortality in septic patients at ED presentation. However, Mer independently predicted the development of SIC, thrombocytopenia and PT-INR derangement in this population.

References: