A249 - Integration of biomarkers and clinical signs for the early diagnosis of sepsis

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Introduction:
The Sepsis-3 Task Force has introduced quick sequential organ failure assessment (qSOFA) as a diagnostic tool for the early diagnosis of sepsis. However, the Sepsis-3 criteria and qSOFA have not yet been prospectively validated. INTELLIGENCE-1 (ClinicalTrials.gov NCT03306186) is aiming in this prospective validation through the integration of clinical signs and biomarkers.

Methods:
100 adult patients with at least one sign of qSOFA and infection or acute pancreatitis or after operation were prospectively followed-up. Blood was sampled the first 24 hours; those with HIV infection, neutropenia and multiple injuries were excluded. Sepsis was diagnosed using the Sepsis-3 criteria. Soluble urokinase plasminogen activator receptor (suPAR) was measured by an enzyme immunoassay.

Results:
Sixty patients were classified with sepsis using the Sepsis-3 definitions. Presence of at least two signs of qSOFA had 56.7% sensitivity, 95.0% specificity, 92.8% positive predictive value and 38.0% negative predictive value for the diagnosis of sepsis. The integration of qSOFA signs and suPAR improved the diagnostic performance (Figure).

Conclusion:
Conclusions Two signs of qSOFA have significant positive prognostic value for sepsis but low sensitivity. This is improved after integration with suPAR.

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Figure

AUC suPAR: 0.71 (0.60-0.82)
AUC suPAR+qSOFA: 0.77 (0.67-0.86)