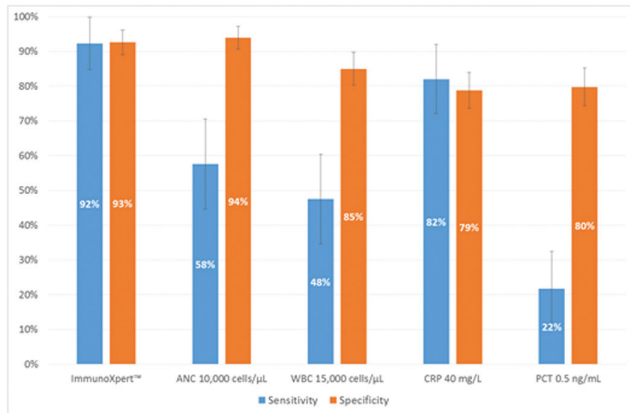


Conclusion. The novel assay demonstrated superior performance compared with routine laboratory tests (WBC, ANC) and biomarkers (CRP, PCT), in distinguishing bacterial from viral etiologies in patients with URTI. It has the potential to help clinicians avoid missing bacterial infections or prescribing unwarranted antibiotics for viral URTIs.



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1151. Biomarker-based Assessment of Urinary Tract Infection in Persons with Spinal Cord Injury

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Background. Urinary tract infection (UTI) is the most common infection and the second leading cause of death in spinal cord injury (SCI) patients. However, there is currently no consensus about the clinical criteria for UTI in SCI patients and the lack of a universal definition of asymptomatic bacteriuria (ABU) make the diagnosis even more complex and the treatment recommendations problematic. Prompt diagnosis and timely treatment of UTI are important to prevent possible progression to sepsis. Elevated concentrations of some biomarkers may be correlated with infection and their serial measurements may be helpful to assess the effectiveness of antibiotic therapy.

Methods. Fifteen SCI participants were enrolled for either lower UTI, upper UTI (pyelonephritis), ABU, or control. Patients suspected of having any inflammation or infection other than UTI were excluded. Participants were monitored for their serum procalcitonin (PCT) and c-reactive protein (CRP) levels initially and every 3 days once the UTI was confirmed and antibiotics prescribed. In addition, the urine was cultured initially and every three days in patients with UTI for correlation with biomarkers. UTI/ABU was assessed by patient's physician.

Results. Both mean initial PCT and CRP were significantly higher in patients with lower UTI ($P = 0.027$ and $P = 0.001$, respectively) and those with upper UTI ($P = 0.044$ and $P < 0.0001$, respectively) compared with control and ABU participants. PCT and CRP were generally reduced to the normal levels gradually during the course of antibiotic therapy for those patients with UTI that were placed on antibiotic therapy. Mean bacterial colonies grown from initial urine cultures in patients with upper or lower UTI were $>100,000$ CFU/mL. Control participants had urine cultures of $\leq 1,000$ CFU/mL. Generally, cultures from UTI patients placed on antibiotics were negative for the organism(s) treated for during or after the completion of antibiotic therapy.

Conclusion. Serum concentrations of CRP and PCT may be used to aid in the early assessment of UTI in SCI patients in the absence of other sources of inflammation and/or infection. In general, CRP measurements are more pronounced than PCT measurements in patients with ABU or lower UTI. However, PCT levels elevate conspicuously in patient with pyelonephritis.

Disclosures. All authors: No reported disclosures.

1152. Serum Procalcitonin as a Marker for Infection in Patients with Acute Myocardial Infarction

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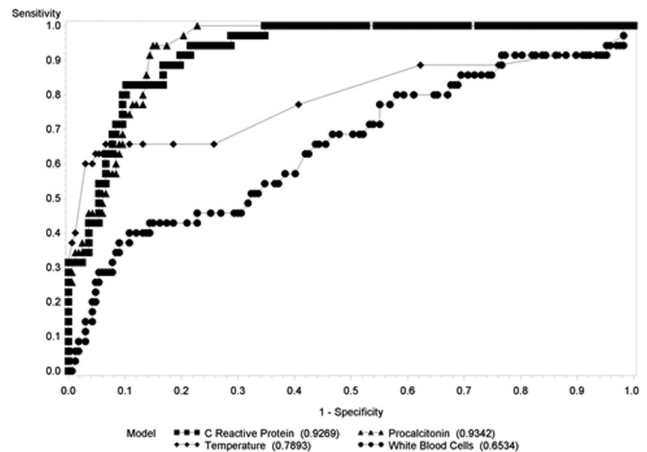
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Background. Significant proportion of patients with acute myocardial infarction (AMI) also present with systemic inflammatory response syndrome (SIRS). Thus it is difficult to determine in certain situations, whether empiric antibiotic treatment is warranted. Serum procalcitonin (PCT) is known to be elevated in bacterial infections, but its performances in predicting bacterial infection among patients with AMI, who might benefit from appropriate empiric management, is unknown.

Methods. A prospective observational study was conducted at Assaf Harofeh Medical Center, Israel. Serum PCT was collected within 48 hours from patients presenting with AMI. Demographic, clinical, and laboratory data, were collected prospectively. Two experienced Infectious Diseases (ID) specialists who were blinded to the PCT results, independently determined the gold standard for infection in every patient. By utilizing sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and the area under the ROC curve (AUC), the performance of PCT, fever, white-blood cells (WBC) count and C-reactive protein (CRP) for infection diagnosis was calculated.

Results. The analysis included 230 AMI patients (age 63.0 ± 13.0 years), of which 36 (15.6%) were determined to be infected. The best cutoff for PCT as a differentiating marker between infected and non-infected patients was achieved at 0.09ng/dl (sensitivity 94.4%, specificity 85.1%, AUC ROC 0.94). This test outperformed CRP, WBC, and fever, for infection diagnosis (figure).

Conclusion. PCT should be utilized for ruling out infection in AMI patients by utilizing serum $PCT > 0.09$ ng/dl (i.e., ≥ 0.1 ng/dl) as a cutoff.



Disclosures. All authors: No reported disclosures.

1153. The prognostic importance of platelet indices in patients with Crimean-Congo Hemorrhagic Fever

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Background. Platelet count is an important tool for the diagnosis and prognosis of Crimean-Congo Hemorrhagic Fever (CCHF). The platelet indices plateletcrit, mean platelet volume (MPV) and platelet distribution width (PDW) are parameters obtained as part of the automated complete blood count. These parameters are of prognostic importance in several diseases. The aim of this study was to evaluate the platelet count and its relations with platelet indices in CCHF patients.

Methods. One hundred and forty-nine patients with confirmed CCHF were included in the study. Patients were divided into two groups (severe cases, patients who exhibited hemorrhage during their hospital stay, and mild/moderate cases with no hemorrhage during hospital stay). The demographic characteristics and laboratory test results of all patients were compared. $P < 0.05$ was regarded as statistically significant.

Results. Hemorrhaging was observed in 38.3% of patients during hospitalization. Platelet count, PCT and PDW values (respectively) on the first day of hospitalization were 43.3 ± 29.3 , $0.06 \pm 0.07\%$, and $17.4 \pm 1.5\%$ in the severe cases and 64.5 ± 35.4 , $0.08 \pm 0.03\%$, and $16.8 \pm 1.5\%$ in the mild/moderate cases, respectively ($P < 0.05$). The difference between MPV values was not statistically significant. At cutoff values at ROC analysis, platelet count (≤ 53000) and $PCT (\leq 0.06)$ exhibited 73.7% and 71.9% sensitivity, respectively, and predicted a hemorrhagic disease course with a 80.9% negative predictive value. Seven of the severe patients died ($P = 0.001$). At cutoff values,