

P2476 Role of procalcitonin in predicting aetiology in bacteraemic patients: report from a large single-centre experience

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Background: Procalcitonin (PCT) is routinely used for an early recognition of severe infections and for promoting appropriate use of antibiotics. However, limited data correlating values of PCT with etiology of infection has been reported. Aim of this study was evaluation of PCT levels in predicting etiology of bloodstream infection (BSI) in a large population of patients with positive blood cultures (BC).

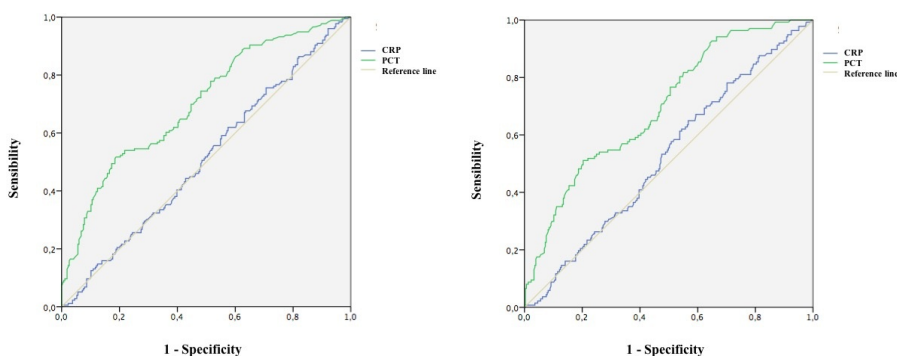
Materials/methods: During 2016, all positive BC were retrospectively extracted in a 1100-beds Italian tertiary-care hospital. PCT and C-reactive protein (CRP) values were recorded \pm 24 hours from BC collection. Primary endpoint of the study was to investigate the correlation between PCT and CRP values with bacteria or fungi causing bloodstream infections (BSI).

Results: During the study period, 1296 positive BC were included: 712 (54.9%) with Gram-positive (GP), 525 (40.5%) with Gram-negative (GN) strains, and 59 (4.6%) with fungi. Among GN isolates, enterobacteriaceae were reported in 453 (86.3%) cases. Differences were observed on PCT values, that were higher in patients with GN etiology (26.1 ± 14.2 ng/mL), if compared to GP (6.9 ± 4.5) and fungi (3.3 ± 2.4). Similar mean values were reported for CRP in GN, GP, and fungi. ROC curves showed an area under curve (AUC) of 0.71 for PCT and 0.51 for CRP among GN isolates; an AUC of 0.7 for PCT and 0.52 for CRP among enterobacteriaceae. Lower AUC for PCT were reported for GP and fungi. Logistic regression analysis performed on CRP and PCT values predicting positivity of BC showed that a PCT value >10 ng/mL (OR 3.84) was independently associated with GN isolation, while a PCT value >0.5 ng/mL (OR 6.01), a PCT value >2 ng/mL (OR 2.52), and a PCT value >10 ng/mL (OR 3.88) were independently associated with BC positive for enterobacteriaceae.

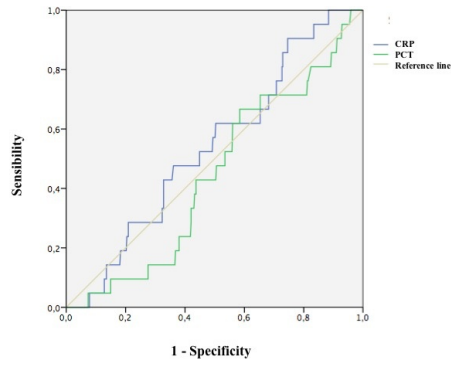
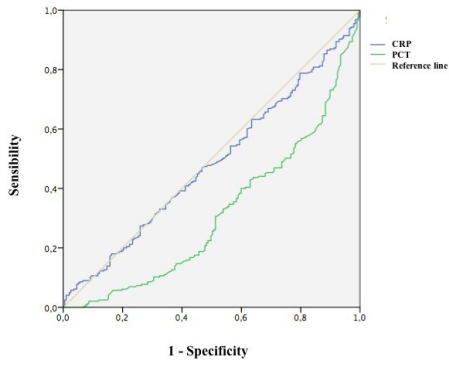
Conclusions: PCT showed a high performance to detect precociously (within 24 hours) GN infections, especially if sustained by enterobacteriaceae. Further prospective studies are mandatory to confirm these observations.

Figure 1. ROC curves about PCT and CRP to predict BC positive for Gram-negative (A), enterobacteriaceae (B), Gram-positive (C), and fungi (D)

A B



CD



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