

POSTER PRESENTATION

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Role of procalcitonin as an early marker in diagnosis and follow up of surgical site infection in Al Azhar University Hospital – New Damietta, Egypt

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Introduction

Identifying patients with bacterial infection and sepsis is a major challenge in emergency departments and critical care units. Procalcitonin (PCT), the prohormone of calcitonin, was described as innovative parameter in early diagnosis of infection.

Objectives

This work was carried out to evaluate the role of PCT as an early marker in diagnosis and follow up of patients with surgical site infection.

Methods

The study was conducted on 50 patients admitted in the surgical departments of New Damietta, University Hospital, in the period between September 2012 and September 2013. Blood, urine and/or pus cultures were done. White blood cell (WBC) counts were determined using the automated hematology analyzer. Serum C-reactive protein (CRP) level was measured by the semi-quantitative latex agglutination test. Serum PCT concentrations were determined using the enzyme linked immunosorbent assay (ELISA).

Results

Postoperative infections were found in 29 patients (58 %) with SSI in 11 (22 %), urinary tract infection (UTI) in 5 (10 %), blood stream infection (BSI) in 4 (8 %), SSI and BSI in 7 (14 %) and SSI and UTI in 2 (4 %) of these patients. *Staphylococcus aureus* & *coagulase negative Staphylococci* were the most frequently isolated pathogens, followed by *Escherichia coli*, *Pseudomonas aeruginosa*,

Proteus mirabilis, *Candida albicans*, *Salmonella Paratyphi B* and *Klebsiella pneumoniae*. Most of the isolated organisms were sensitive to *Imipenem*. Among the infected group, median serum levels of PCT and Temperature were higher ($P < 0.001$) in the early phase (one day after operation, 1.20 ng/ml, 36.5 °C) more than preoperative phase (0.11 ng/ml, 37.7°C) and the late phase (5 days after operation: 0.46 ng/ml, 37.5 °C). Median serum levels of CRP and WBC were increased gradually ($P < 0.001$) from the base line to the late phase (5.0 mg/l, 12.0 mg/l, 48.0 mg/l for CRP and 5.3 K/uL, 10.1K/uL, 11.2 K/uL for WBC, respectively).

Conclusion

These data indicate that PCT is greatly helpful to distinguish an infection from an inflammation. Moreover, it plays a very important prognostic role in the early detection of patients at risk of infection in the post-operative period.

Disclosure of interest

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