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Drug resistant pattern of bacterial isolates in infected wounds at Bahir Dar Regional Health Research Laboratory Center, Northwest Ethiopia

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Introduction & Aim: Pseudomonas aeruginosa has emerged as the most common gram-negative pathogen associated with serious hospital-acquired infections, particularly within intensive care units. PsA bacteremia may be primary (with no identifiable source) or secondary to a discrete focus of infection, including urinary and GI tract, lungs, skin and soft tissue, intravascular foci (e.g. indwelling central venous catheters). The aim of this study is to assess clinical presentations and outcome of Pseudomonas bacteremia in ICU patients, to assess risk factors for Pseudomonas bacteremia in ICU patients and to assess risk factors for emergence of MDR Pseudomonas strains.

Method: All patients admitted to three ICUs (medical ICU, trauma ICU and surgical ICU) in Hamad General Hospital with positive blood C/S for PsA over three years (1st Feb 2010-31st Jan 2013) were studied retrospectively. Patients having polymicrobial bacteremia were excluded.

Results: Total number of patients was 47. Majority were males, most of the patient's had comobrid conditions, prolonged hospital stay and history of invasive procedures. Almost half of cases presented with septic shock. Outcome: All-cause mortality was about 60%, mainly because of primary disease. Rest of the patient were discharged home or shifted to rehabilitation units. Antimicrobial susceptibility testing showed 14 out of 47 patients (29.7%) were MDR Pseudomonas. 4/47 (8.5%) were pan resistant, sensitive only to Colistin. Colistin was 100% sensitive among all the isolates. Other susceptibilities were Amikacin 92%, Cefepime 82%, Ceftazidime 82%, Aztreonam 57%, Ciprofloxacin 88%, Gentamicin 86%, Meropenem 78% and Piperacillin Tazobactam 86%.

Conclusion: Prolonged hospital stay, presence of comorbid conditions, septic shock, immunosuppressive conditions and H/O invasive procedures are poor prognostic factors in cases of Pseudomonal bacteremia. The previous history of antibiotics use lead to emergence of multidrug resistant strains. Initiation of effective empirical antimicrobial therapy in patients at high risk of acquiring pseudomonas infection can improve outcome.

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