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Abstract (publication only)

Clinical impact and cost analysis of multidrug-resistant nosocomial Acinetobacter baumannii bacteraemia: a case-control study

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Objectives: Acinetobacter baumannii is an important nosocomial pathogen that causes high mortality, morbidity and medical cost because of its increasing resistance to antimicrobial agents. The aim of this study was to investigate clinical impact and cost analysis of multidrug resistant nosocomial A. Baumanni bacteremia. Methods: A case-control study was carried out in the intensive care unit of the Atatürk Education and Research Hospital of Ankara, Turkey, from January 2007 through December 2010. Risk factors associated with multidrug resistance (MDR) and mortality and cost analysis were evaluated in patients with A. baumannii bacteremia. We selected patients who had bacteremia caused by the other gram-negative microorganisms during the study period as control group. Results: 86 patients were included in the study. 41 patients were in the case group, and 45 patients were in the control group. In the univariate analysis we found that arterial line (p=0.01), higher SAPS II score (p=0.02), lower albumin level (p=0.02), the previous use of carbapenem (p<0.001), quinolone (p=0.04), glycopeptide (p=0.02), aminoglycosid (p=0.001), and metronidazole (p=0.01) were risk factors for MDR A. baumannii bacteremia. In the multivariate analysis it was found that previous use of carbapenem (p<0.001, OR:11.9, 95% CI: 3.3-43.3), quinolone (p<0.02, OR:6.7, 95% CI: 1.3-34.4) and metronidazole (p=0.007, OR:31.8, 95%CI:2.6-391.2, and high SAPS II score (p=0.01, OR:1.1, 95% CI: 1.0-1.1) were independent risk factors. The length of time spent at hospital, hospitalization costs and expense of antimicrobial therapy were not found statistically different between the two groups (case and control). There was no statistical significance in 14-day mortality, 28-day mortality or infection related mortality between the two groups. in multivariate analysis, immunosuppression (p=0.027, OR:4.7, 95%CI: 1.2-18.4) and high SAPS II score (p<0.001, OR:1.1, 95%CI:1.0 – 1.2) were independently associated with mortality in the case group. Conclusion: The rationale use of the antibiotics is particularly important to prevent bacteremia caused by MDR A. baumannii.