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ePoster Viewing

Sepsis, bloodstream and graft infections: *Staphylococcus aureus* and others

RISK FACTORS, PROGNOSTIC FACTORS AND OUTCOME IN PATIENTS WITH BLOODSTREAM INFECTION CAUSED BY *KLEBSIELLA PNEUMONIAE* VERSUS *ESCHERICHIA COLI*

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Objectives: To compare patients with bloodstream infection (BSI) caused by *K. pneumoniae* with invasive infection caused by *E. coli* regarding risk factors for acquiring infection and prognosis.

Methods: Retrospective case-control study based on medical charts from all adult (≥ 18 year) patients admitted to Karolinska University Hospital, Stockholm, between 2006 and 2010 with BSI caused by *K. pneumoniae* (n=450). 40 patients were excluded due to co-infection with *E. coli*, leaving 410 cases. Each case was matched (age, sex and year of disease) with a control with BSI caused by *E. coli* (n=410). Data was collected regarding risk factors, antimicrobial resistance, prognostic factors and mortality. To measure comorbidity, Charlson comorbidity index was used, and an index >5 was considered 'high comorbidity'. Univariate analysis was performed, using Chi²-test.

Results: The median age was 67 years, 233 (56.8 %) of the patients were male. The 30-day mortality was 14.4% among the cases and 11.5 % among the controls (p=0.21). The patients with BSI caused by *K. pneumoniae* had a higher comorbidity than the patients with BSI caused by *E. coli*, 143 and 106 patients respectively, had a Charlson index >5 (p=0.005). This difference can partly be explained by the significant higher prevalence of malignancies, 214 versus 164 (p=0.0006) and metastasized malignancies, 51 versus 25 (p=0.044) among the cases. The most common malignancy was hematologic (84 and 61 patients in the case and controlgroup respectively). Among the cases 51.5 % (211) of the episodes were hospital-acquired compared to 37.3 % (153) among the controls (p=0.0001). The cases also significantly more often had central and urinary catheters/history of reconstructive urinary tract surgery than the controls (p=0.0001). The most common found source of infection was the urinary tract in both groups, but this source was significantly higher in the control group (p=0.0001). The incidence of ESBL-producing BSI was low; 1.7 % (7) among the cases and 3.4 % (14) among the controls. The *E. coli* isolates were for most antimicrobials more often resistant than the *K. pneumoniae* isolates; trimethoprim-sulfametoxazol 115 versus 42 (p=0.0001), ciprofloxacin 68 versus 37 (p=0.0012) and gentamicine 21 versus 6 (p=0.0033).

Conclusion: This study could not show any significant difference in 30-day mortality between patients with BSI caused by *K. pneumoniae* versus *E. coli*. Our study indicates that *K. pneumoniae* in a higher degree is a hospital-acquired pathogen affecting patients with multiple comorbidity. The empirical antibiotic treatment used in Sweden still seems effective and carbapenems can be avoided in most cases.