

P1125

Paper Poster Session

Prevention of hospital and healthcare-associated infection

Multidrug-resistant *Klebsiella pneumoniae* bacteraemia: a threat in patients with neoplasia

Diamantis Kofteridis¹, Angeliki Andrianaki², Marina Plataki³, Sofia Maraki⁴, Athanasia Christidou³, Antonis Valachis⁵, Ioannis Papadakis¹, Maria Zacharioudaki¹, George Samonis¹

¹University Hospital of Heraklion, Internal Medicine-Infectious Diseases, Heraklion, Greece

²University Hospital of Heraklion, Internal Medicine-Infectious Diseases, Internal Medicine-Infectious Diseases, Heraklion, Greece

³University Hospital of Heraklion, Heraklion, Greece

⁴University Hospital of Heraklion, Clinical Microbiology, Parasitology, Zoonoses and Geographical Medicine, Heraklion, Greece

⁵University of Uppsala, Uppsala, Sweden

Background: *Klebsiella pneumoniae* bacteremia represents a serious life-threatening infection. The present study investigated the epidemiology, predisposing factors and outcome of *Klebsiella pneumoniae* bloodstream infections (BIs) in patients with neoplasia.

Methods: The medical records of adult patients with neoplasia and *Klebsiella pneumoniae* bacteremia cared for at the University Hospital of Heraklion, Crete, Greece, from January 2007 through September 2014 were retrospectively examined.

Results: Thirty-nine episodes of BIs, in an equal number of patients with neoplasia, were identified. Twenty-five patients (64%) suffered of solid tumors (STs), while the rest of hematological malignancies (HMs). The median age of patients with HM was 54 years (range 40-83) and of those with ST 60 (43-84). Most patients with ST had gastrointestinal carcinoma (5 out of 25; 20%), followed by lung and ovarian cancer (3; 12% each), while the majority of patients with HM had acute myelogenous leukemia (10 out of 14; 72%). In 11 episodes (28%) the infection was polymicrobial. Polymicrobial infections were more common among patients with ST (40% vs. 7.1%, $p = 0.06$). On the other hand, neutropenia was more common in patients with HM (71.4% vs. 16%, $p = 0.001$). Multidrug resistant (MDR) *Klebsiella pneumoniae* strains have been isolated in 29 episodes (74.6%). The number of resistant strains was comparable between the HM and ST groups (85.7% vs. 68%). Patients infected with MDR *Klebsiella pneumoniae* had longer hospitalization as compared to patients with sensitive strains [33 days (8-99) vs. 16 (4-46), $p = 0.03$] regardless of the underlying neoplasia. Only 20 patients (52.6%) received appropriate empirical treatment. All cause mortality reached 28.2% and was unrelated to the type of malignancy and the susceptibility of *Klebsiella pneumoniae*. Logistic-regression analysis identified as independent predictors of mortality in all patients, the higher Charlson comorbidity index ($p < 0.001$) and septic shock at presentation ($p < 0.001$). Colistin administration ($p < 0.01$), prior surgery ($p < 0.05$) and higher Charlson comorbidity index ($p < 0.05$) were revealed as independent predictors of mortality in patients with ST, whereas in patients with HM mortality was independently correlated with septic shock at presentation ($p < 0.01$), polymicrobial infection ($p < 0.05$) and longer duration of hospitalization ($p < 0.05$).

Conclusion: *Klebsiella pneumoniae* BIs in patients with neoplasia in our region are usually caused by MDR strains and empirical antimicrobial treatment is often inappropriate. Higher Charlson comorbidity index and septic shock at presentation were associated with increased mortality.