Title: Implications of identifying the pathogen in ventilator-associated pneumonia (VAP)

Dr. Margarida 25414 Dias mcpdias@gmail.com MD ¹, Dr. Paulo 25415 Marçal paulo.marcal@chedv.min-saude.pt MD ² and Dr. Piedade 25416 Amaro piedade.amaro@chedv.min-saude.pt MD ². ¹ Pulmonology, Centro Hospitalar Vila Nova De Gaia/Espinho, Vila Nova de Gaia, Portugal and ² Intensive Care Unit, Centro Hospitalar Entre Douro e Vouga, Feira, Portugal.

Body: Background: VAP is associated with increased mortality and costs. Lower airways secretions should be obtained from patients with suspected VAP and empirical antibiotic therapy should be started promptly. Objectives: To evaluate the impact of identifying the pathogen in VAP on antibiotic therapy and intubation length, length of intensive care unit (ICU) stay and mortality. Methods: Retrospective study of all patients diagnosed with VAP in an ICU between 1/8/2001 and 31/12/2011. Patients were divided in two groups depending on pathogen identification in the lower airways. Antibiotic therapy and intubation length, length of ICU stay and mortality were compared between groups. Results: Of 206 patients included, the pathogen was identified in 154. Agents identified the most were P. aeruginosa (48%), S. aureus (27%) and Acinetobacter sp.(8%). For patients with pathogen identification, empirical therapy was inappropriate in 29% while de-escalation was achieved in 25%. There were no differences between groups in ICU mortality, intubation length and length of ICU stay. Pathogen identification was associated to longer antibiotic therapy in ICU (11.4 vs 8.6 days, p=0.02). When empirical therapy was inappropriate (n=44), mortality was higher (34% vs 25%, p>0.05) and appropriate therapy was longer (12.9 vs 10.2 days, p=0.016). Conclusions: Pathogen identification revealed inappropriate therapy in 29% of patients with impact in mortality. Pathogen identification did not alter significantly intubation length, length of ICU stay and mortality but was associated to longer therapy. This can be explained by high prevalence of non-fermentable gram-negative bacilli. Of relevance, de-escalation was possible in 25% of patients.