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Oral Session
Healthcare - associated infections - from analysis to interventions

PRIOR DIGESTIVE COLONISATION WITH EXTENDED-SPECTRUM B-LACTAMASE PRODUCING ENTEROBACTERIACEAE IN INTENSIVE CARE UNIT : SIGNIFICANCE IN PATIENTS WITH VENTILATOR-ASSOCIATED PNEUMONIA

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Objectives : Ventilator-associated pneumonia (VAP) is the most commonly nosocomial infection in intensive care unit (ICU). Extended-Spectrum ß-Lactamase producing Enterobacteriaceae (ESBL-EB) are difficult-to-treat pathogens likely to cause VAP. We sought to assess the interest of active surveillance of digestive colonisation with ESBL-EB in ICU as a way to predict their involvement in VAP.

Methods : A prospective cohort-study of patients with suspected VAP in a medical ICU in a french teaching hospital. Every patient admitted to our ICU between January, 2006 and August, 2013 was eligible if subjected to MV for more than 48 hours. Each patient with VAP according to the physician's clinical judgment ascertained by the 'modified' Clinical Pulmonary Infection Score (CPIS) calculation was included in the cohort.Active surveillance culture for ESBL detection was routinely performed in all ICU patients on admission and then weekly throughout the study period. ESBL colonisation was defined by the isolation of at least one ESBL-EB from rectal swab or stool culture.

Results : Among 587 patients with suspected VAP, 40 patients (6,8 %) had positive colonization with ESBL-EB documented by active surveillance culture before the development of VAP, while 20 patients (3,4 %) had VAP caused by ESBL-EB over the study period. Sensitivity and specificity of prior ESBL-EB colonization as a predictor of ESBL-EB involvement in VAP were : 80% (95% CI [56-94%]) and 96 % (95% CI [94-97%]), respectively. The positive and negative predictive values were 40 % (95% CI [25-57%]) and 99 % (95% CI [98- 99%]), respectively. The positive likelihood ratio was 18,9.
Conclusions : ESBL-EB digestive colonization screening by weekly active surveillance cultures could reliably exclude the risk of such pathogens involvement in patients with VAP given its high negative predictive value. As a result, such surveillance policy may decrease the need for empirical ESBL-EB coverage in patients with suspected VAP and reduce in turn carbapenems use.