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SUCCESSFUL CONTROL OF A NOSOCOMIAL OUTBREAK OF OXA-48 PRODUCING KLEBSIELLA PNEUMONIAE IN A RESPIRATORY INTENSIVE UNIT

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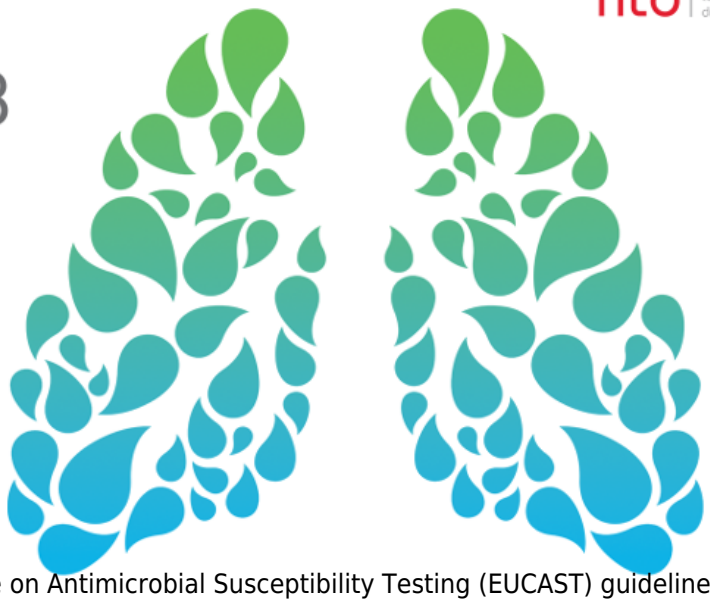
Objective: Introduction
Global spread of carbapenem-resistant Enterobacteriaceae is a critical healthcare challenge because of limited therapeutic options. Hereby we report a nosocomial outbreak of OXA-48-producing Klebsiella pneumoniae in respiratory intensive care unit at the University Hospital Centre Zagreb, Croatia.
Aims and objectives
To investigate the outbreak of carbapenem-resistant K. pneumoniae using molecular methods and clinical data.
Methods
All K. pneumoniae isolates were identified by MALDI-TOF mass spectrometry. Antimicrobial susceptibility was



performed according to the European Committee on Antimicrobial Susceptibility Testing (EUCAST) guidelines. Presence of the blaOXA-48 gene was detected by polymerase chain reaction. Molecular typing was performed with pulsed-field gel electrophoresis (PFGE).

Results

During November and December 2016, eight patients with OXA-48-producing K. pneumoniae isolates in BAL were identified.In all strains MIC for imipenem, meropenem and colistin was 4 µg/mL, 8 µg/mL, and 0,25 µg/mL, respectively. Epidemiological data revealed that the first positive patient was transfered from foreign country. In all patients the same bronchoscope was used. Typing of isolates showed that they were highly related. The bronchoscope solutions were taken for microbiological analysis but remain negative. The usage of the suspected bronchoscope was discontinued and the outbreak was suspended.

Conclusion

Bronchoscopy has been identified as a risk factor for the acquisition of carbapenem-resistant Enterobacteriaceae and transmission due to bronchoscopy should always be taken in consideration if oubreaks occur. Our report emphasizes the importance of careful bronchoscope reprocessing and introducing of single-use bronchoscopes as a possible solution.