Zakład Diagnostyki Mikrobiologicznej i Immunologii Infekcyjnej Uniwersytecki Szpital Kliniczny w Białymstoku

Analiza epidemiologiczna i ocena zmian oporności na antybiotyki szczepów Acinetobacter baumanii complex izolowanych od pacjentów hospitalizowanych w Uniwersyteckim Szpitalu Klinicznym w Białymstoku w latach 2009 – 2013

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VIII. SUMMARY

Acinetobacter baumanii complex due to its ability of quick adaptation to unfavorable external environment and pressure of antibiotics, can easily survive on dry surfaces, form bioflims, colonize the skin and mucous membranes of hospitalized patients and medical staff. With increasing antibiotic resistance they are highly ranked among nosocomial pathogens, being a peculiar problem in intensive care units and patients with mechanical ventilation.

Purpose of this work was to define incidence of *Acinetobacter baumanii complex* on various wards of the University Hospital of Bialystok and evaluation of the test bacteria resistance to selected antibiotics, over the years 2009-2013 as recommended by CLSI and EUCAST.

Retrospective analysis of susceptibility of strains isolated from patients hospitalized in 2009-2013 had been made.

Acinetobacter baumanii complex strains corresponded for 16.73% isolations from positive bacteriological cultures. They were mostly isolated from bronchial secretions, so their participation in the positive cultures form lower respiratory tract accounted for about one quarter (average 27.32%). In the University Hospital of Bialystok described bacteria was most frequently isolated from the Department of Anesthesiology and Intensive Care: 46.42.% in 2009, 49.07% in 2010, 53.8% in 2011, 53.39% in 2012 and 55.14% in 2013, and every year the frequency of isolation grew. The highest activity against *Acinetobacter baumanii complex* strains was showed by colistin with 99% susceptibility according to CLSI recommendations and 97.7% according to EUCAST recommendations. Changing the guidelines from American CLSI to European EUCAST caused an increase in resistance to netilmycin from 80.2% to 81.9%, tobramycin from 30.2% to 81.9%, gentamycin from 73.9% to 82.4%, amikacin from 17.9% to 52.5%, colistin from 1% to 2.3%, levofloxacin from 89.7% to 94.6%, imipenem from 77.4% to 78.3% and meropenem from 80.4% to 86.2%. In this cases, with the exception of imipenem, statistically significant differences in susceptibility were found. Overall sensitivity to imipenem was lower in the Intensive Care Unit A – 11.1% of the strains, than on other wards – 32.4%.

The above analysis illustrates the danger posed by strains of *Acinetobacter baumanii complex* due to the high antibiotic resistance, and hence the need for microbiological surveillance and implementation of rational antibiotic therapy.