

POSTER PRESENTATION

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Carbapenem-resistant enterobacteriaceae: a challenge for early detection and infection control

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Introduction / objectives

In 2009, in response to the threat of emerging carbapenem-resistant Enterobacteriaceae, an alert system was introduced at Geneva University Hospitals.

Methods

The alert system detected patients harboring carbapenemase-producing strains as KPC or non-KPC. Referrals from other hospitals were screened on admission for the presence of multiresistant organisms, and put under contact control precautions if positive.

Results

Between October 2009 - January 2010, we identified 1 imported case of KPC (origin, Southern Italy) and 3 cases of NDM-1 producing Enterobacteriaceae, transferred from hospitals in India (1), Pakistan (2) and Serbia/France(3).

Patient 1- on admission digestive carrier of *E. coli* *bla*_{NDM-1}.

Patient 2- digestive carrier of *P. mirabilis bla*_{NDM-1} detected after extended hospitalization and antibiotic therapy

Patient 3- hospitalized in Serbia and France, with *K. pneumoniae bla*_{NDM-1} urinary tract infection on admission.

All 3 patients were carriers of other multiresistant, Gram-negative bacteria on admission. The NDM-1 molecular identification was made retrospectively in October 2010. Patient 4 was admitted for elective surgery, without prior history of hospitalization. A urine culture yielded *K. pneumoniae bla*_{KPC-2}. The patient was put under strict contact precautions; but developed a surgical site infection

with treatment challenges related to dose finding, availability, toxicity of antibiotics. No secondary cases were found due to early screening and preemptive isolation.

Conclusion

The threat of carbapenemase-producing strains underlines the need for early detection, implementation of control measures and surveillance, which needs constant updating. The laboratory alert system focused on KPC but ignored initially the NDM-1 threat.

Disclosure of interest

None declared.

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