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More than half of ESBL-E are susceptible to fluoroquinolones: admission prevalence data from eight non-ICUs in a German university hospital

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Introduction

Little information is available on prevalence of extended-spectrum-betalactamase-producing *Enterobacteriaceae* (ESBL-E) with and without additional resistance to fluoroquinolones. In Germany, *Enterobacteriaceae* are classified according to their susceptibility to four classes of antimicrobial substances. Only organisms resistant to acylureidopenicillins, 3rd and 4th generation cephalosporins and fluoroquinolones are labelled as "multidrug–resistant".

Objectives

The aim of this prospective analysis was to gain evidence on admission prevalence and incidence of ESBL-E with and without resistance to fluorochinolones in non-ICUs in a German university hospital.

Methods

This analysis is part of the R-GNOSIS framework. WP 5 investigates the benefits of isolation precautions over standard measures for ESBL-E-carriers in non-ICUs. Rectal swabs are obtained for all patients admitted to the participating wards within 3 days of admission. Patients staying longer than 3 days are screened every 7 days thereafter and before discharge. Chromogenic culture media are used for ESBL-screening, identification and susceptibility testing is performed using Vitek 2 (bioMérieux, Germany).

Results

Between February 2014 and February 2015, 8317 patients were admitted to 8 medical and surgical wards. An admission sample was obtained for 6047 patients (73%). Among all 8317 patients, 6814 patients had a LOS of more than 3 days, and 4083 patients were screened at least twice (60%).

The majority of ESBL-E-carriers was identified on admission (n=607, 10.1%). However, 197 patients (4.8%) were screened negative on admission and turned ESBL-positive during their stay. Admission prevalence of ESBL-E resistant to fluorochinolones was 4.7% (n=286), and 2.7% (n=111) of patients turned positive during their stay.

Conclusion

More than 50% of ESBL-E were susceptible to fluorochinolones. As the increase of ESBL-E is a worldwide concern and resources to prevent their spread are limited, focusing on ESBL-E according to their antimicrobial susceptibility pattern may be a pragmatic approach.

Disclosure of interest

None declared.

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