

POSTER PRESENTATION

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P078: Epidemiology of extended-spectrum beta-lactamase-producing enterobacteriaceae (ESBL-E) during an epidemic, with screening of patients and healthcare workers

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Objectives

To determine the nosocomial acquisition rate of ESBL-E among patients and healthcare workers (HCWs) during an epidemic (March 2009 to Nov 2010) in an orthopaedics ward at HUG.

Methods

Universal screening made by anal swab of all patients on admission and every 2 weeks if screening remained negative. 49 samples were collected from 41 HCW and 60 environmental samples were analysed. Molecular typing was performed on all ESBL-E isolates. If there was more than 97.5% similarity, strains were considered identical.

Results

Between March 2009 and November 2010, 1'531 admissions occurred to the orthopaedic ward (12'401 patient-days; length of stay of 27 days). Among 565 anal swabs, ESBL-E were detected in 204 samples from 45 patients.

The ESBL-E found were *E. coli* (n=39), *Klebsiella pneumoniae* (n=10), *Enterobacter spp* (n=8), *Citrobacter spp* (n=2), *Morganella morganii* (n=2), and *Proteus vulgaris* (n=1). Two different ESBL-E strains were detected in 6 patients, and 3 others carried three distinct isolates. The ESBL-E transmitted were *E. coli* (14 patients), *K. pneumoniae* (3 patients) and both in 2 patients.

Identical ESBL-E species with epidemiological links were found in 25 cases. Only 9 of these were attributable to the unit. Most positive patients (96% [43/45]) were colonized asymptotically with ESBL-E.

Among HCWs, 6 samples (12%) were positive. Transmission was only observed between patients, not HCWs.

None of the environmental samples revealed presence of ESBL-E.

Conclusion

Transmission of ESBL-E strains was only observed between patients. No transmission between HCWs and patients occurred. HCW screening and environmental sampling is not useful during ESBL-E carriage outbreaks.

The main ESBL-E transmitted was *E. coli*.

ESBL-E transmission can occur in units with extended length of stay, questioning the new Swiss policy of abandoning contact precautions for *E. coli*-ESBL carriers.

Disclosure of interest

None declared.

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