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Poster Session II

Surveillance of healthcare-associated infections

PREVALENCE OF ESBL-PRODUCING ENTEROBACTERIACEAE MOTHER COLONIZATION AND MOTHER-TO-NEONATE TRANSMISSION

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Objective: *Escherichia coli* is one of the most common causative agent of severe neonatal infections. The increasing rate of intestinal colonisation with ESBL-producing Enterobacteriaceae in the community may enhance the risk of materno-fetal transmission. We studied the prevalence of colonisation of ESBL-producing Enterobacteriaceae in women giving birth in at our hospital and the rate of transmission to newborns.

Methods: Vagino-rectal swabs from mothers and rectal swabs from newborns were collected over a 3-months period. Bacterial identification was performed by standard methods and ESBL production was confirmed by the resistance phenotype using the CLSI double-disk synergy test on Mueller Hinton agar with and without 200 mg/l cloxacillin. The genetic relatedness among *E. coli* isolates was determined by *Xba*I pulsed-field gel electrophoresis (PFGE). Dendrograms were created with Fingerprinting 3.0 software (Bio-Rad), using the Dice coefficient and 1% of tolerance.

Results: From August until October 2013, 39 of 406 (9.6%) mothers giving birth at our institution were found to be colonized with ESBL-Enterobacteriaceae. A total of 33 (85%) ESBL-producing *E. coli* (ESBLEC), 5 (13%) ESBL-producing *K. pneumoniae* (ESBLKP) and 1 (2.5%) ESBL-producing *K. oxytoca* were identified from vagino-rectal swabs. Nine of their neonates (2.2%) were colonized <24 h after birth. In 7 (77%) mother-child pairs, ESBLEC with identical pulsotypes were recovered. Additionally, one child was colonized by ESBLEC but his mother was colonized by ESBLKP, and one child was colonized while his mother was not detected to be colonized. One colonized neonate suffered a urinary tract infection caused by ESBLEC and was admitted to the Neonatal Care Unit.

Conclusions: 1) Our results showed a high prevalence of ESBL-Enterobacteriaceae vagino-rectal carriage in mothers giving birth in our institution, which is higher than found in recent studies in healthy volunteers in Spain; 2) we found evidence of mother-to-neonate transmission during the first 24 h after birth in 18% of colonized mothers.