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Community associated extended spectrum β lactamase producing *Escherichia* coli infection in Korea

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Background: The community associated infections due to extended spectrum β lactamase (ESBL) producing *Escherichia coli* has been well known clinical problems. Serogroup O25-multilocus sequence typing (MLST) sequence type ST131 *E. coli* has been known as a major clone for worldwide spread because of its multidrug resistances and higher virulence traits.

Methods: The recent extent and significance of community associated infections caused by ESBL producing E. coli were evaluated by a prospective observational study. We collected non-duplicated *E. coli* isolates, isolated from consecutive, sequentially encountered patients with community onset episodes (either outpatients or within 48 hours of admission) between March and April 2016 in two community hospital in Gyeonggi province, Korea. Sites of acquisition of the organisms (community associated or healthcare associated), antimicrobial susceptibility and PCR of O25/O16 genes to screen global epidemic ST131were evaluated.

Results: Of 213 patients infected or colonized with *E. coli* as outpatients or within 48 hours of hospitalization, 119 (55.9%) had community associated infection (65.5% of which represented urinary tract infection), while the remainder had healthcare associated infection. Of the community associated infections, 26.9% (32/119) were caused by the globally epidemic ST131 strain (25/119 for O25-131 and 7/119 for O16-ST131 respectively). ESBL production was confirmed by phenotypic methods in 24.4% (29/119) of the community associated infections.

Conclusions: A considerable portion of community onset, ESBL producing *E. coli* infections now occur among patients in Gyeonggi Province, Korea. Increase of ST131 *E. coli* infections in community without healthcare associated risk factors could be worrisome public health threats.

Biography

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