Nationwide surveillance of antimicrobial resistance among Enterobacteriaceae in intensive care units in Taiwan

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摘要

Abstract

To determine the antimicrobial resistance profiles among clinical isolates of Enterobacteriaceae in Taiwanese intensive care units (ICUs), a national surveillance of antibiotic resistance among important Enterobacteriaceae was conducted from September 2005 through November 2005 at the ICUs of ten major teaching hospitals in Taiwan. A total of 574 Enterobacteriaceae isolates recovered from various clinical samples of our ICU patients were submitted for in vitro test. Minimum inhibitory concentrations (MICs) of these isolates to 18 antimicrobial agents were determined by the broth microdilution method. The prevalences of Enterobacteriaceae isolates with phenotypic extended-spectrum beta-lactamase (ESBL) production were 26% in Klebsiella pneumoniae, 16% in Serratia marcescens, 14% in Escherichia coli, and 13% in Proteus mirabilis, in which a significantly rising prevalence of ESBL production among K. pneumoniae was noted (p = 0.002) when compared with a previous Taiwanese survey in 2000. Heterogeneous resistance to various fluoroquinolones was found among our Enterobacteriaceae isolates, except for Enterobacter cloacae. Emergence of ertapenem-resistant isolates of E. coli, K. pneumoniae, E. cloacae, and S. marcescens was noted. Gradually increasing rates of drug-resistant Enterobacteriaceae were noted in Taiwanese ICUs. Periodic surveillance of the evolutionary trend of antimicrobial resistance among ICU isolates is crucial for starting appropriately empirical antimicrobial therapy in the future.