VIRULENCE CHARACTERISTICS AND ANTIMICROBIAL SUSCEPTIBILITY OF UROPATHOGENS FROM PATIENTS ON PHUKET ISLAND, THAILAND

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Abstract. Urinary tract infection (UTI) is among the most common infections in human. Escherichia coli and Klebsiella pneumoniae are common uropathogens found to cause UTI. In this study, 113 E. coli and 52 K. pneumoniae isolates were collected from three hospitals on Phuket Island, Thailand. The majority of E. coli and K. pneumoniae isolates were from elderly females. Antimicrobial susceptibility testing demonstrated that most of E. coli isolates (77%) were resistant to tetracycline while cotrimoxazole was ranked second (65%) and nitrofurantoin was the least resistant (1%). K. pneumoniae isolates were also most resistant to tetracycline and cefotaxime (65%). The presence of extended spectrum-beta lactamase (ESBL) producers among E. coli isolates were 46% and 57% in K. pneumoniae. Twenty-seven E. coli isolates carried at least one of the common urovirulence genes (pap, afa, hlyA), the majority isolated from patients in the internal medicine ward. One rare K. ozaenae was isolated from a 45 year-old catheterized male patient from the orthopedics surgery ward. This isolate demonstrated resistance to all antimicrobial agents tested except imipenem. This study is the first of such kind conducted in southern Thailand and should be useful in treating UTI patients in this area of Thailand.

Keywords: Escherichia coli, Klebsiella pneumoniae, Klebsiella ozaenae, ESBL, uropathogen

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