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Infection Control: Clinical epidemiology of nosocomial infections

Risk factors for nosocomial complicated urinary tract infections due to *Pseudomonas aeruginosa* in males

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Objective: To evaluate nosocomial complicated urinary tract infections (UTI) in males, and to determine the risk factors for *Pseudomonas aeruginosa*.

Methods: The male patients who developed a nosocomial UTI between 2009 and 2012 at Gazi University Hospital were included in the study. The data were collected retrospectively from patient files and laboratory records. CDC definitions were used to the diagnosis of nosocomial UTIs. The patients were divided into two groups regarding to causative agents: *Pseudomonas* group (Group P) and other microorganisms (Group O). The risk factors (nephrolithiasis, presence of recurrent urinary tract infections, prostate hyperplasia, diabetes mellitus, internal or external catheterization) were compared between two groups. Data analysis was performed using SPSS version 15.0.

Results: Totally 300 UTI attacks in 228 male patients were investigated in the study. *P. aeruginosa* was the causative agents in 37 attacks (12.3%), while the most frequent microorganism is *E. coli* (51.3%). When the risk factors were compared between Group P and O, univariate analysis showed that internal urinary catheterization, nephrolithiasis and recurrent urinary tract infections (≥ 2 attacks) were significant risk factors for *P. aeruginosa*. A logistic regression analysis showed that nephrolithiasis increased the risk 3.5 fold, and recurrent UTI 8.9 fold for the development of UTI due to *P. aeruginosa*. The duration of hospitalization and treatment were found to be longer in Group P (14 days vs 10 days).

Conclusions: Complicated urinary tract infections due to *P. aeruginosa* in males should be kept in mind in patients with nephrolithiasis and recurrent UTI. When the presence of these factors, empirical therapy should cover antipseudomonal agents.