

Prevalence of Fluoroquinolone-Resistant *Escherichia Coli* in the Intestinal Flora of Patients Undergoing Transrectal Ultrasound-Guided Prostate Biopsy: Implications for Antimicrobial Prophylaxis

Introduction and Objective: Fluoroquinolones are the most commonly used antibiotics prophylaxis before transrectal ultrasound-guided prostate biopsy (TUPB). However, fluoroquinolone-resistant infections after TUPB are increasing. In this study, we aimed to determine the prevalence of fluoroquinolone-resistant *Escherichia coli* (QREC) in the intestinal flora of patients before they underwent TUPB by rectal swab culture using stools stuck on gloves at the digital rectal examination (DRE); further, we examined whether this information is useful in selecting the appropriate antimicrobial agent for prophylaxis.

Materials and Methods: From April 2010 to May 2011, rectal swabs of patients were cultured before they underwent TUPB. A total of 121 patients were enrolled after they provided informed consent. *E. coli* was isolated and the minimum inhibitory concentration (MIC) of levofloxacin (LVFX) was determined. *E. coli* strains were considered fluoroquinolone-resistant when their MIC of LVFX was $\geq 8\mu\text{g/mL}$ (according to the breakpoint MIC defined by the Clinical and Laboratory Standard Institute criteria). Patients received tazobactam/piperacillin (TAZ/PIPC) or LVFX or flomoxef (FMOX) for prophylaxis. We retrospectively evaluated the records of 106 patients from whom *E. coli* strains were isolated. All biopsies were performed as inpatient procedures, and the patients were hospitalized overnight.

Results: *E. coli* was isolated from 106 of 121 (87.6%) specimens; further, 14 (13.2%) of these isolates were characterized as QREC. Nine of the 106 (8.5%) patients presented with infectious complications after TUPB: 7 of 45 (15.6%) patients who received TAZ/PIPC and 2 of 18 (11.1%) patients who received LVFX had infectious complications. Rectal swabs of patients who had infectious complications revealed quinolone-susceptible *E. coli*.

Conclusions: This method of using stools stuck on the glove at the DRE is convenient and provides information about QREC. QREC is considered a risk factor for post-TUPB infectious complications. However, FMOX prophylaxis before TUPB may be effective even if QREC is present in the intestinal flora of patients.