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491. Comparative Effectiveness of Single vs Combination Antibiotic Prophylaxis for TRUS-biopsy

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Background. Single agent prophylaxis with fluoroquinolones (FQ) or cephalosporins (drugs of choice) or trimethoprim-sulfamethoxazole or aminoglycosides (alternatives) is recommended prior to transrectal ultrasound guided prostate biopsy (TRUS-biopsy). However increasing FQ resistance (FQ-R) has led to a rise in post-biopsy infections. We sought to compare the rate of infectious related complications in patients receiving ciprofloxacin vs alternative regimens such as ciprofloxacin plus a cephalosporin or a non-FQ regimen for TRUS-biopsy prophylaxis.

Methods. A total of 487 men who underwent a TRUS-biopsy at VA Boston Healthcare System between 2011-2013 were retrospectively evaluated for infections within 30 days, including symptomatic urinary tract infection (UTI) with fever, bacteremia, or sepsis. Men undergoing concurrent procedures or lacking documentation of prophylaxis compliance were excluded. Electronic records were used to extract outcome data from the national VA healthcare system, including outpatient and urgent care visits.

Results. Of 455 men evaluated, there were 25 infections (5.5%), with sepsis occurring in 2.4%, UTI in 1.5% and bacteremia in 0.4% of patients. *E. coli* was the most common urine (89%) and blood pathogen (92%), with FQ-R rates of 88% and 91% respectively. Ciprofloxacin alone was associated with significantly more infections than ciprofloxacin plus an additional agent ($p = 0.019$). Intramuscular gentamicin alone was also significantly associated with a higher infection rate compared to all other regimens ($p = 0.014$). Ciprofloxacin plus cefpodoxime was the most common combination regimen. Any combination was highly protective, with a 75% reduction in infection rate compared to ciprofloxacin or gentamicin alone (OR 0.25, 95% CI 0.06; 0.77, $p = 0.01$). Diabetes, immunosuppression, hospitalization within prior year, and UTI within the previous 6 months were not associated with post-biopsy infection risk.

Conclusion. The overall incidence of post TRUS-biopsy infection in this cohort was higher than previous reports. The findings suggest that ciprofloxacin or gentamicin alone are inferior regimens compared to a combination regimen. The preferred combination likely depends on local susceptibility data.

Disclosures. K. Gupta, Paratek: Consultant, Consulting fee