

## Oral Antibiotics in Trans-Rectal Prostate Biopsy and Its Efficacy to Reduce Infectious Complications: Systematic Review

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**Abstract :** Background: For the diagnosis of prostate cancer Trans-rectal prostate biopsy (TRPB) is used commonly, the procedure is associated with infective complications. There is evidence that antibiotics (ABx) decrease infective events after TRPB, but different regimens are used. Aim: To systematically review different regimens of prophylactic oral antibiotics in TRPB. Design: Medline, Embase, Clinical trials site, and Cochrane library were searched, experts were consulted about relevant studies. Randomized clinical trials (RCT) conducted in the last twenty years, which investigated different oral antibiotic regimens in TRPB, and compared their efficacy to reduce infectious complications were analyzed. Measurements: Primary outcomes were bacteriuria, urinary tract infection (UTI), fever, bacteremia, sepsis. Secondary outcomes were hospitalization rate, and the prevalence of ABx-resistant bacteria. Results: Nine trials were eligible with 3012 patients. Antibiotics prevented bacteriuria (3.5% vs. 9.88%), UTI (4.46% vs. 9.75%), and hospitalization (0.21% vs. 2.13%) significantly in comparison with placebo or no treatment. No significant difference was found in all outcomes of the review between the single dose regimen and the 3 days. The single dose regimen was as effective as the multiple dose except in Bacteriuria (6.75% vs. 3.25%), and the prevalence of ABx-resistant bacteria (1.57% vs. 0.27%). Quinolones reduced only UTI significantly in comparison with other antibiotics. Lastly, Ciprofloxacin is the best Quinolone to prevent UTI, and hospitalization. Conclusion: it is essential to prescribe prophylactic Antibiotics in TRPB. No conclusive evidence could be claimed about the superiority of the multiple or the 3 days regimens to the single dose regimen. Unexpectedly, ABx-resistant bacteria was identified more often in the single dose cohorts.

**Keywords :** infection, prostate cancer, sepsis, TRPB

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