

Blood stream infections following TRUS prostate biopsy: A 20-year analysis of bacteriology and antibiotic sensitivities

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Introduction & Objectives: Transrectal ultrasound (TRUS) guided prostate biopsy remains the most common method of prostate cancer diagnosis. Current Australian therapeutic guidelines recommend a single dose of oral ciprofloxacin 1 hour prior to biopsy, however there still remains a significant risk of post-TRUS sepsis, ICU admission and death. We aimed to analyse the blood stream infections following TRUS prostate biopsy in the Australian Capital Territory (ACT) with a focus on bacteriology and antibiotic sensitivities.

Materials & Methods: Analysis of a prospective database of blood stream infections following TRUS biopsy in the ACT, Australia from 1998 to 2018 was performed. Australian MBS (Medicare Benefit Schedule) database was used to calculate the number of TRUS biopsies performed in the ACT during this period. Data was analysed using SPSS 24.0.

Results: There were 6728 TRUS biopsies performed in the ACT, with 58 culture proven blood stream infections following biopsy resulting in a 0.08% sepsis rate. The bacteria cultured were *E. coli* (89%), *Klebsiella pneumoniae* (5%), *Pseudomonas aeruginosa* (2%), *Morganella morganii* (2%) and *S. aureus* (2%). Bacterial multi-resistance was present in 26% of cases and all of these cases were only present in the last 10 years. Cephazolin and gentamicin resistance was 22% and 26% respectively. Ciprofloxacin resistance was present in 34% of cases.

Conclusions: Blood stream infections post TRUS biopsy remains low in our Australian centre, however ciprofloxacin resistance is relatively high in patients presenting with post-TRUS sepsis. As more TRUS biopsies are now being done under sedation in our ACT region, a single IV dose of cephazolin or gentamicin may be more beneficial than ciprofloxacin.