How are our rates of post TRUSP biopsy sepsis after a change in microbiological management? A Re-audit of the past three years.

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Background:
Prostate cancer is the most common malignancy in men, affecting over half of those aged over 80, and representing up to 26% of all UK male cancer diagnosis. Transrectal ultrasound and biopsy of the prostate (TRUSP) represents the diagnostic gold standard for prostate cancer. However, TRUSP carries infection risks ranging from mild urinary tract infection (1%) to severe urosepsis (0.3%) requiring hospital admission (1). At our hospital (Kingston, SW London), TRUSPs are performed by a radiologist with prophylactic antibiotic cover consisting of single 1 g Metronidazole suppository and a short course of oral Ciprofloxacin 500 mg taken 3 hours prior, followed by a further 500 mg every 12 hours.

Methods:
1) Retrospective audit of all TRUSPs performed at Kingston Hospital between 1st March 2014 and 31st December 2017 (first audit cycle).
2) This was followed by a our retrospective reaudit of all TRUSPs performed at Kingston hospital between 1st March 2014 and 31st December 2017. M&Ms notes, histology, microbiology, and clinical notes were reviewed to collect data on sepsis and outcomes. Culture-positive UTI was defined as a positive urine culture in a symptomatic patient, and bacteremia by positive blood culture.

Results of 1st audit round and Action Plan:
Initial audit of 146 TRUSPs revealed higher than expected rates: 3.5% UTI and 1.2% bacteraemia. Gentamicin was subsequently added to the prophylactic antibiotic regimen.

Results of Second Audit:

- Of the above only 5 (including 1 bacteremia) were discussed at the local Urology morbidity and mortality meeting 20%.

Conclusion:
The addition of gentamicin resulted in a significant reduction of both bacteremia (by 75%) and culture positive UTI (by 46%), resulting in improved sepsis rates, but requires greater resources and anaesthesia. If we can achieve comparable sepsis rates with a transrectal biopsy technique, the savings to the hospital in terms of resources will be significant.

2nd Action Plan:
Subsequent re-audit to compare infection rates of transrectal biopsy with transperineal biopsy, which is being increasingly used at our trust. Transperineal biopsy is though to carry lower rates of post-procedure sepsis, but requires greater resources and anaesthesia. If we can achieve comparable sepsis rates with a transrectal approach, this would suggest a continued need for the technique.

References: