The difficulty of interpreting endotoxaemia post transrectal prostate biopsy

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Introduction
A prospective study to measure and interpret sepsis and endotoxaemia following prostate biopsy.

Methods
67 consecutive patients received ciprofloxacin and metronidazole prophylaxis. Blood cultures and endotoxin assay were performed at 5 and 60 min and 24 hours post biopsy. Prostate needle washings were cultured. Chromogenic Limulus Amoebocyte Lysate assay used to determine endotoxin.

Proposed classification of endotoxaemia
- Occult
- Sepsis syndrome
- Unwell
- Septic Shock ± Multi Organ Failure
- Urosepsis

Results
61/67 patients (91.0%) had positive cultures from needle washings. 6/67 patients (9.0%) had positive blood cultures. Endotoxin assay was performed on 66 samples at 5 min, 60 samples at 60 min, and 60 samples 24 h post biopsy. Endotoxin was detected in 62/66 (94.0%) at 5 minutes, 53/60 (88.3%) at 60 minutes and 55/60 (91.6%) at 24 hours.

Discussion
This study demonstrates the translocation of gut endotoxin post TRPB. The non portal venous drainage of the prostate is an explanation for the endotoxins measured after biopsy. These findings of endotoxaemia are in keeping with the landmark studies previously performed that demonstrated endotoxin in the unprotected placebo group.

Conclusions
This study raises several issues. What is the significance of endotoxin detection in the serum samples after prostate biopsy? Is this related to the increased mortality in relation to cardiovascular dysfunction of this group?

The WHO’s Global Action Plan on Antimicrobial Resistance in 2015 emphasises that we have a duty of governance and stewardship to review the implementation of alternative surgical approaches that will allow significant reduction of antibiotic prophylaxis in TRPB.

While we endeavour to understand the clinical significance of the association between bacteraemia and endotoxaemia after transrectal prostate biopsy it is important that we share with patients the potential risks reported worldwide of the procedure as we strive to make prostate biopsy safer.