Septic shock after transrectal ultrasound guided prostate biopsy. Is ciprofloxacin prophylaxis always protecting?

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We report a case of septic shock complicating transrectal ultrasound guided prostate biopsy despite antibiotic prophylaxis with ciprofloxacin. Patient was recently treated with the same agent for other infectious illnesses.

Key Words: septic shock, TRUS, prostate, biopsy, complication

Introduction

Infective complications after transrectal ultrasound prostate biopsy (TRUSPB) are well known and potentially fatal.

Two cases of fatal sepsis post transrectal prostate biopsy (TBP) had been reported.[1,2] We report a case of septic shock complicating a TRUSPB in otherwise healthy patient who was covered with ciprofloxacin prophylaxis. To our knowledge only six case reports of septic shock have been reported following needle core transrectal prostate biopsy.[3]

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Case report

A 64-year-old man with rising PSA (6.1 ng/ml), mild lower urinary tract symptoms (LUTS), and a rectal examination of a benign feeling large prostate underwent elective TRUSBP. Prior to the procedure he was prescribed 500 mg of ciprofloxacin twice daily, to start 1 day before the procedure. He took his own personal supply of 250 mg of ciprofloxacin. The patient was treated recently on two separate occasions with oral ciprofloxacin for diverticulitis, and flue like symptoms. No enema prescribed as it is not part of our protocol.

On the evening following the procedure he was feeling unwell, with burning micturation, frequency,

urgency, and low-grade temperature of 38 C. Patient was advised by his family physician to double the dose of ciprofloxacin to 500 mg twice daily.

Two days after the procedure, the patient was admitted to the intensive care unit with fever of 42 C, and septic shock, requiring broad-spectrum antibiotics, inotropic support and intubation. Rectal examination and CT scan were performed and neither revealed a prostatic abscess. Blood culture yielded Escherichia coli sensitive to ciprofloxacin, and urine culture was negative. Patient did gradually improve on antibiotics (Ampicillin, Gentamycin, Meropenum), and was weaned of inotropic support then extubated after 24 hours. He was observed on the medical ward for 1 week and discharged home on oral levofloxacin for 4 weeks. Prostate biopsy revealed high-grade prostatic intraepithelial neoplasia (PIN), with no prostatic adenocarcinoma.

Discussion

Antibiotic prophylaxis active against both urinary and colorectal flora, and which reach a high tissue concentration within the prostate is routinely given prior to TRUSBP. This has resulted in a lower incidence of infectious complications after such a procedure,[4] however the agent to be used and the duration of prophylaxis are not uniformly agreed upon. Similarly there is no agreement on the role of enemas in preventing infective complications after such a procedure.

A survey of 25 urology and radiology departments in the UK showed 19 different regimens for patients undergoing transrectal prostate biopsy.[5]

Floroquinolones, particularly ciprofloxacin, are widely used due to their broad spectrum of action, covering common colorectal and urinary flora, high concentration within prostatic tissue, and ease of oral administration.

Failure of ciprofloxacin prophylaxis is expected to increase because of the excessive use, and the emerging phenomenon of multiresistant enterobacteriaceae.[6,7]

In this case, ciprofloxacin failed to protect against infective complication probably due to recent exposure, and bacterial desensitization to such an agent.

Prophylaxis with broad spectrum agents such as pipracillin-tazobactum, or carbapenem, have been suggested, and should be considered in any patient undergoing prostatic biopsy with a history of recent exposure to multiple antibiotics. □

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