Service Priorities and Programmes

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Reduction of septic complications after transrectal ultrasound guided prostate biopsy by additional cefuroxime injection

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Introduction

Septic complications after transrectal ultrasound (TRUS) guided prostate biopsy are uncommon but potentially life-threatening. Fluoroquinolone-based antibiotics prophylaxis remains the mainstay of measures to reduce septic complications. Septic complications are usually reported to be less than 5%. Due to emerging bacterial resistance of fluoroquinolone, there is a worldwide increase in septic complication rate if fluoroquinolone prophylaxis is used alone. On the other hand, bacterial resistance to cefuroxime is less common. It has been a surge of septic complications from July to September, 2011 in Queen Elizabeth Hospital due to fluoroquinolone resistance.

Objectives

This study aims to review the 28-day septic complication rate after TRUS guided prostate biopsy in Queen Elizabeth Hospital, before and after administration of additional intravenous cefuroxime as antibiotics prophylaxis.

Methodology

Septic complications are defined by sepsis, fever more than 38 degree without sepsis, or other clinical infection occurred within 28-day of biopsy. Patients' demographic data, date of biopsy, reasons for readmission within 28 days after biopsy and the microbiology investigation results were periodically reviewed from CDARS or electronic patient record.

Result

The septic complication rate was 5.3% (8/150) from January 2011 to June 2011. However, a surge of septic complications up to 14.8%(12/81) was observed from July to September 2011. All patients who had septic complications requiring readmission had septic workup performed. The positive cultures were all resistance to fluoroquinolone. The most common organism identified was E Coli, which accounted for 81.3%(13/16) positive cultures. Augmentin and Cefuroxime were sensitive in

81.3% (13/16) cases and extended spectrum beta lactamase (ESBL) positive organisms occurred in 4 cases only. With collaboration with the microbiologists of Queen Elizabeth Hospital, root-cause analysis was performed and the bacteriology resistance patterns were analyzed. Starting from October 1, 2011, 1.5gm intravenous cefuroxime was injected on call to biopsy in addition to the usual prophylactic measures. Septic complications were decreased to 3.8% (14/367) from October 2011 to October 2012. However, most common organism was found to be ESBL E Coli (87.5%), which was resistant to both fluoroquinolone and cefuroxime.