COMMENTARY

Re: Antibiotic resistance in patients undergoing serial prostate biopsies: risk factors and impact on clinical outcomes

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It is well known that the most common complication following prostate biopsy is infection and the etiology behind this is fluoroquinolone-resistant (FQR) *Escherichia coli*.[1] Fluoroquinolones are the mainstay of antimicrobial prophylaxis for transrectal prostate biopsy (TR-Bx) and are considered first line in the AUA best practice statement.[2] Widespread use of fluoroquinolones is believed to be one of the driving forces behind increased FQR throughout the community. With the increased adoption of active surveillance (AS) in the management algorithm of low-risk prostate cancer, fluoroquinolone use will likely increase due to the need for repeat prostate biopsies.[3,4]

In the preceding article, the authors report on risk factors contributing to antibiotic resistance in patients undergoing serial prostate biopsies. Their study included 743 men who underwent initial rectal culture which demonstrated FQR in 22% of patients.[5] The rate of new FQR following biopsy with ciprofloxacin antibiotic prophylaxis was 17.2% and 9.1% after the 1st and 2nd procedures respectively. History of diabetes mellitus, prior prostate biopsy, and ciprofloxacin use were statistically significant risk factors in developing FQR. This data brings up a few discussion points worth considering:

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1. 22% FQR in the initial rectal culture cohort as seen in their study is not negligible and highlights the importance of obtaining a rectal culture prior to TR-Bx. While time and resource consuming, we believe that performing a pre-biopsy rectal culture should be standard practice prior to TR-Bx when using fluoroquinolone antimicrobial prophylaxis in a region that has such high resistance rates.
2. Resistance rates are variable throughout each community and across the country. Therefore, utilizing one's hospital or regional antibiogram is imperative when selecting antibiotic prophylaxis and is considered best practice.[1]
3. Antibiotic stewardship is essential to combating the rising rate of FQR. Prophylaxis dose and duration should never exceed what is minimally required to prevent infection. Notably, the AUA best practice statement recommends a single periprocedural dose versus a longer duration.[2]
4. There is an increasing role for transperineal prostate biopsy (TP-Bx) to further the goal of antibiotic stewardship particularly in patients who demonstrate multi-drug resistant (MDR) flora. The recently published PREVENT and ProBE-PC randomized clinical trials both demonstrate no statistically significant difference in infection rate between TR-Bx and TP-Bx.[6,7] However, the TP-Bx cohort did not require antibiotic prophylaxis.

We commend the authors on their research of this critically important topic in the AS era of prostate cancer where serial biopsies are only expected to rise and fluoroquinolone use to also increase commensurately. □

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