Initial experience performing in-office ultrasound-guided transperineal prostate biopsy under local anesthesia
Alexa R. Meyer, Gregory A. Joice, Zeyad R. Schwen, Alan W. Partin, Mohamad E. Allaf, Michael A. Gorin
The James Buchanan Brady Urological Institute and Department of Urology, Johns Hopkins University School of Medicine, Baltimore MD, USA

Introduction and Objective: Transperineal prostate biopsy is associated with a lower rate of infectious complications compared to the transrectal approach. Historically, general or spinal anesthesia has been needed in order for patients to tolerate the required multiple needle passes through the perineum. Thus, despite its benefits, this procedure has had limited clinical adoption. We present our initial experience performing transperineal prostate biopsies using a novel needle guide that reduces the number of punctures of the perineal skin enabling performance of this procedure in the office setting using local anesthesia.

Methods: Following Institutional Review Board approval, we retrospectively reviewed the records of men who underwent in-office prostate biopsy using the PrecisionPoint Transperineal Access System (Perineologic, Cumberland, MD). Records were reviewed for baseline characteristics, biopsy results, and post-biopsy complications.

Results: Between January 4, 2017 and August 23, 2017, 43 men underwent in-office transperineal prostate biopsy. All biopsies were successfully performed with administration of 20-30 mL of 1% lidocaine to the perineal skin and prostatic apex. Periprocedural antibiotics were omitted in all cases. Patients had a median PSA of 6.1 ng/mL (range 0.8-32.9). Of the 43 biopsies, 12 (27.9%) were performed for active surveillance of low-risk prostate cancer and 31 (72.1%) were performed for cancer screening. A median of 12 cores (range 12-14) were obtained in each procedure. In all cases the anterior prostate was adequately sampled. Overall, 21 (48.8%) men were found to have prostate cancer. Among those on active surveillance, cancer was detected in 8/12 (66.7%), with 2/12 (16.7%) found to have Gleason ≥3+4=7 prostate cancer. Additionally, cancer was detected in 13/31 (41.9%) undergoing a biopsy for screening, with 5 (16.1%) found to have Gleason ≥3+4=7 disease. Furthermore, cancer was detected exclusively in the anterior gland in 2 (4.7%) men. In total, 3 (7.0%) patients experienced a post-biopsy complication: 2 (4.7%) with urinary retention and 1 (2.3%) with hematuria requiring catheterization. No patient experienced an infection despite omission of periprocedural antibiotics.

Conclusions: The PrecisionPoint device allowed for the successful performance of in-office transperineal prostate biopsies under local anesthesia without the need for periprocedural antibiotics. We observed an acceptable cancer detection rate with no infectious complications. Future research aims to compare the safety and cancer detection rate with this device to standard transrectal prostate biopsy.