Freehand transperineal biopsy of the prostate in local anesthesia. An alternative to the transrectal approach in daily practice?

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Aim:

Infectious complications after transrectal prostate biopsy are known (1). The incidence is rising due to antimicrobial resistance (2). Transperineal prostate biopsy is considered an alternative but is generally performed in general anesthesia or sedation (3). This report aims to test the feasibility of free-hand transperineal biopsy guided by transrectal ultrasound (TRUS) in local anesthesia. Complications, patients tolerability, adverse events and cancer detection rate are analysed.

Methods:

Beginning 2015 all consecutive patients elected for prostate biopsy were included. The patients did not receive bowel preparation and were placed in lithotomy position. After shaving and desinfection of the perineum, the transrectal ultrasound probe (Hitachi linear rectal probe, 7.5 MHz) is introduced. The prostate is visualised, measured and suspicious lesions are noted. Local anesthesia is applied to the perineal skin, subcutaneous tissue and pelvic floor on each side of the raphe using a total of 30-40ml of 1% rapidocain. A guiding cannula is used as transperineal metallic path for repeated atraumatic passage of the biopsy needle. Under ultrasound supervision, the biopsy gun is then placed into the prostate meeting up with the location of the ultrasound image. Three separate regions of the prostate were sampled: the anterior, middle and dorsal area of each side of the prostate. Based on the size of the prostate, 2-4 samples were obtained from each region. After the procedure, pressure to the perineum is applied for 2 minutes and the patient discharched. Lifting restrictions for one day. Two tablets of fluoroquinolone are given the evening and morning before the procedure. A numerous pain score (0-10) was given by each patient directly after the biopsy.

Results:

From January 2015 until Mid May 2015 44 patients with a mean PSA of 6.4 ng/ml (1.01- 85) were analyzed. No infections and no hospitalisation occured. Mean pain score was 2.76 (range 0-8). Gross hematuria was self limiting in all patients. 2 (4.5%) patients experienced acute urinary retention and needed catheterisation for 24 hours. Cancer detection rate was 24/44 (54.5%).

Conclusions:

Transperineal prostate biopsy in local anesthesia is a safe, effective and well tolerated out patient procedure. The elimination of infectious complications combined with an accurate cancer detection rate make this technique an excellent alternative to the transrectal approach.

(1) A.M. Bootsma et al.: Antibiotic prophylaxis in urologic procedures: a systematic review. Eur Urol. 2008;54:1270-1286

(2) Nam RK et al.: Increasing hospital admission rates for urological complications after transrectal ultrasound guided prostate biopsy. J Urol 2013;189(Suppl 1):S12–7

(3)EAU 30th Annual Congress, Madrid: K. Wahda et al. Abstract 120. Presented March 21, 2015