

PROSTATE CANCER TREATMENT DECISIONS IN A COHORT OF PATIENTS DIAGNOSED USING A STEREOTACTIC TRANSPERINEAL BIOPSY TECHNIQUE

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Purpose: This study investigates the detection rate and treatment decision patterns in patients diagnosed with prostate cancer after undergoing ultrasound guided stereotactic transperineal prostate biopsy (STPB) for diagnosis of non-palpable, isoechoic occult prostate malignancy.

Materials and Methods: 327 consecutive patients with continued rising total prostate specific antigen (PSA) with a minimum of 1 prior benign transrectal prostate biopsy (range 1-8), underwent STPB at a single out-patient institution between 04/2004 and 11/2006. Median patient age, total PSA, prostate volume and number of specimens obtained were 62 years, 8.3 ng/ml, 46.1 cm³ and 40 specimens, respectively. Similar to a prostate brachytherapy procedure, patients were placed in dorsal lithotomy position. Using general anesthesia, transrectal ultrasound, perineal brachytherapy template and stabilizing device, the prostate was positioned on the implant grid. It was equally divided into eight sections (octants) according to x and y coordinates on the midgland axial image. The midplanes of axial and sagittal prostate gland images for each patient determined the x, y and z coordinates that would occupy each octant. Tissue cores were obtained initially from the apical octants, followed by identical x and y coordinates of the basilar octants. Specimens from each specific octant were placed in one of eight specimen jars and pathologic review was reported accordingly.

Results: STPB yielded adenocarcinoma in 125/327 (38%) patients. Median procedure time was 25 minutes and median recovery time was 80 minutes. 35/327 (9.8%) developed acute urinary retention requiring an indwelling urinary catheter upon discharge. In all patients, estimated blood loss was less than 5 cc and median pain score was 1 out of 10. The majority of patients diagnosed with adenocarcinoma chose to undergo prostate brachytherapy. Treatment decisions are displayed in Table 1.

Conclusion: STPB is efficacious for diagnosis of non-palpable, isoechoic occult prostate malignancy. We attribute the majority of patients choosing brachytherapy to the considerable similarities between STPB and the seed implant procedure. These factors include the following: out-patient procedure, negligible post-operative pain and the short duration of anesthesia, procedure and recovery times.

Table 1. Treatment Decisions (Updated 2/13/07)

Treatment Decision	# Patients	% of total
Seed Implant	72	57.6
Radical Prostatectomy (3 Robotic Cases)	21	16.8
Cryotherapy	3	2.4
External Beam/ IMRT	6	4.8
Hormone Therapy	2	1.6
Watchful Waiting	3	2.4
Undecided/Unknown	18	14.4
TOTAL	125	100