SYSTEMATIC LATERAL-BASE TRUS BIOPSY TECHNIQUE YIELDS A CANCER DETECTION RATE OF 58%.
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INTRODUCTION AND OBJECTIVES: Previous reports on the cancer detection rate from transrectal ultrasound (TRUS) guided biopsy in patients with PSA values of 4-10 have ranged from 20 to 30%. In addition, about 20% to 40% of men with an initial benign biopsy subsequently have cancer detected on repeated biopsy. In an attempt to improve the cancer detection rates on the initial biopsy, we evaluated a systematic lateral-base biopsy technique with routine transition zone (TZ) biopsies.

METHODS: Two hundred fifty-six patients who presented to the urologic clinic with elevated PSA, were advised to undergo TRUS biopsy. The indications for the biopsy were PSA driven, with biopsies performed in all patients with values outside of their age-specific range by a single staff urologist (CZ). A systematic lateral-base TRUS biopsy technique (done in the transverse view) consisted of 3 to 4 cores from each side of the peripheral zone (PZ) and 1 to 2 cores from each side of the TZ. The PZ cores were taken at the base, middle, and apex, with an additional sample taken from the anterior horn. The two cores from each side of the TZ were taken anteriorly and posteriorly to the urethra. All patients had a minimum of 10 biopsy cores. The cancer detection rate, incidence of high prostatic intraepithelial neoplasia (PIN), and the association of TZ cancer were recorded. The patients were located in 3 risk groups: group I, PSA 4-10 (n = 73); group II, PSA 10.1-20 (n = 33), and group III, PSA >20 (n = 27).

RESULTS: The cancer detection rates in the various risk groups were as follows: group I, 57.9% (73/126); group II, 58.9% (33/56); and group III, 79.4% (27/34). The incidence of PIN in the three groups was 15.9%, 21.4%, and 5.9% respectively. The pattern of Gleason scores (GS) of ≤6 in the three groups were as follow: group I, 39%, group II, 22%, and group III, 14%. The incidence of pure TZ cancer was only 0.78% (2 of 256). A large number of TZ cancers were seen in association with one or more positive PZ biopsy. In these three groups, the incidence was 4.8%, 5.4%, and 11.8% respectively. The re-biopsy of patients with PIN showed a 45% incidence of cancer, with no differences between the three groups.

CONCLUSIONS: Systematic lateral-base biopsy technique significantly improve the cancer detection rate, yielding a rate greater than 50% in all patients with PSA greater than 4. With our routine lateral-base technique, biopsy of the transition zone did no improve the cancer detection rate. This study confirms that all patients with diagnosis of PIN, irrespective of the PSA level, should undergo a second biopsy.