To the Editors:

The outcome of elevated prostate specific antigen and transrectal ultrasound guided prostatic biopsy in detecting carcinoma of the prostate: initial experience in Sri Lanka.

Prostate cancer (CaP) is the commonest urological malignancy in the west and the leading cause of death due to malignancy in the adult males [1].The incidence in Sri Lanka is not known. A majority of cases are referred to urologists at tertiary care referral hospitals. Detection of CaP depends on the digital rectal examination (DRE), serum prostate specific antigen (PSA) levels and core needle biopsy. Of several biopsy methods transrectal ultrasound (TRUS) guided needle biopsy has emerged as the most sensitive and reliable method of detecting CaP. This technique and availability of PSA was introduced rather late to Sri Lanka. The present study, conducted at a tertiary care hospital in the private sector, evaluates the outcome of the first 134 patients who underwent the procedure after presenting with lower urinary tract symptoms (LUTS) and elevated PSA.

One hundred and thirty four patients with LUTS and elevated PSA (above 4ng/dL) were subjected to TRUS guided biopsy, irrespective of the DRE findings. The procedure was done as a day case by a radiologist. With the patient in left lateral position 6 to 8 systematic random core biopsies were obtained with a 18-gauge automatic biopsy needle and a 7.5 MHz endorectal rectal ultrasound probe. A single dose of gentamicin (1.5 mg/kg) was used for antibiotic prophylaxis and 2% lignocaine was used as the topical local anaesthetic. Biopsies were obtained without targeting specific areas. Biopsies were preserved in formalin-saline and reported by a single pathologist .

TURS appearance, complications and histopathology were recorded in standard data form immediately and at a subsequent clinic visit after 3 weeks.

Age distribution was 48–86 years. There were 38 (28%) CaP, 88 (66%) benign prostatic hyperplasia and eight (5%) chronic prostatis. Correlation of histology of CaP according to the combined Gleason score and PSA value is shown in Table 1.

Table 1. **Correlation of prostate specific antigen levels and histological grade in prostatic carcinoma**

PSA	*Gleason score*		
(ng/dL)	*2-4*	*5-7*	*8-10*
4–10	0	2	1
11–20	0	7	5
21–40	0	5	1
>40	0	11	6
Total	**0**	**25**	**13**

Poor correlation of PSA with the Gleason score confirms previous studies. [2]. Cancer detection rate in our study (28%) compares well with that of previous studies and confirms the value of high PSA followed by TRUS biopsy [3]. However, the high negative biopsy rate needs further attention, as it leads to repeat biopsy and increased costs to patients. When high PSA density (PSA/prostatic weight>0.1)) was considered in an attempt to reduce the negative biopsy rate, cancer detection rate was not significantly different (28%), showing that it was not significantly more specific than PSA alone in selecting candidates for biopsy [4]. Although not used in this study, other variables such as free:total PSA ratio, age specific PSA levels and PSA velocity have been used for the same purpose without much success [3]. When TRUS appearance alone was considered the false positive rate was 44%, and the false negative rate 18%. Studies have shown that the positive predictive value of TRUS appearance of the prostate is low (26.9%), especially when biopsy is targeted for hypoechoic lesions [4]. If the disturbances of the capsular demarcation and presence of peripheral nodules were taken into account, predictive value could be increased to 44%, as demonstrated in the present study.

Complications reported were pain –10/134 (7%), primary rectal or urethral bleeding 3/134 (2%), symptomatic urinary tract infection 8/134 (7%), and acute urinary retention 3/134 (2%). Contrary to the popular belief, pain from the biopsy was minimal. With the low complication rates it confirms the feasibility of doing TRUS guided biopsy as a day Procedure [5].

At present screening for CaP is debatable and the predictability of PSA and TRUS biopsy in asymptomatic men is even more questionable. The present study would act as a stepping stone for further studies on this problem.

References

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