

## CHANGES OVER UROFLOWMETRY PARAMETERS AFTER TRANSRECTAL PROSTATE BIOPSY

### Hypothesis / aims of study

Many patients being investigated for prostatic enlargement with high values of PSA will require a prostate biopsy along with uroflowmetry as part of their work up. This study compares simple uroflowmetry of men before and after transrectal prostate biopsy to emphasize any change of the urinary flow.

### Study design, materials and methods

A sample of two hundred patients attending for prostate biopsy were consented and recruited for the study. The mean age was 64 years ( $\pm 15.6$  SD) range 54-86 years. Men were initially asked to perform uroflowmetry using Medtronic Duet flowmeter. Transrectal ultrasonography guided biopsy was then performed and three specimens from each lobe were collected with AceCut biopsy needle. After fifteen days a second uroflowmetry was carried out. Patients were excluded if they were affected after the biopsy by fever, serious urethrorrhagia and rectorrhagia or if their uroflowmetry trace suggested bladder sphincter dyssynergia. The data was analysed using the Students paired sample t-test (two-tailed). Statistical significance was assumed with a p value  $< 0.05$ . Methods, definitions and units conform to the standards recommended by the International Continence Society, except where specifically noted.

### Results

Of the two hundred men eighteen were excluded for the reasons given above. Table 1 demonstrates the results obtained along with the p values. There was no statistical difference between the variables of Qmax and Qave in the pre and post biopsy uroflowmetry. A statistically significant increase in post biopsy voided volume was noted ( $p=0.042$ ). Pearsons test showed a statistically significant correlation between pre and post Qmax ( $R^2 = 0.620$ ) and Q-ave ( $R^2 = 0.530$ ).

Table 1 mean  $\pm$ SD of variables pre and post prostate biopsy

	Mean $\pm$ SD		Significance	Correlation
	Pre prostate biopsy	Post prostate biopsy		
Qmax ml/sec	13.9 $\pm$ 6.8	14 $\pm$ 6.9	p=0.78	$R^2=0.620$
Qave ml/sec	8.1 $\pm$ 4,2	7.9 $\pm$ 4.2	p=0.50	$R^2=0.530$
Void vol ml	250 $\pm$ 135	286 $\pm$ 110	p=0.042	nil

### Interpretation of results

The results demonstrate that transrectal prostate biopsy does not significantly affect the Qmax or Qave, however it does produce a higher voided volume. The reason of the higher voided volume is unknown, even though might be due to individual patient variability between subsequent voids, which is widely recognised.

### Concluding message

In the diagnostic work-up of the prostatic enlargement with higher values of PSA it is feasible to carry out the uroflowmetry after a transrectal prostate biopsy without altering the uroflowmetry values.

Moreover this study demonstrates that transrectal prostate biopsy don't increase at short-term the degree of bladder outlet obstruction.