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## EVALUATION OF FREE-TO-TOTAL PROSTATE SPECIFIC ANTIGEN RATIO IN THE DIAGNOSIS OF PROSTATE CANCER

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It's reported that free to total prostate specific antigen ration (f/tPSA) can provide more benefit than the single use of prostate specific antigen (PSA) in the diagnosis of prostate cancer (PCa). We measured serum PSA and fPSA levels in 62 cases of benign prostatic hyperplasia (BPH) and 40 cases of PCa using radioimmunoassay, with patients' age range 59y~89y.

### RESULTS

PSA, fPSA and f/tPSA are shown in Table 1.

*Table 1. PSA, fPSA and f/tPSA of BPHs and prostate cancer*

	PSA (ng/ml)	TPSA (ng/ml)	f/tPSA ratio
BPH	8.14±7.45	1.45±2.35	0.22±0.19
PCa	54.0±63.7	7.94±7.98	0.16±0.09
<i>P</i>	<0.001	<0.001	0.07

Both these two groups shows linear correlation between PSA and fPSA, correlation coefficient of BPH is 0.55 ( $P<0.01$ ), of PCa is 0.44 ( $P<0.01$ ). Two slopes have no difference (0.17 vs 0.054,  $P>0.05$ ).

### DISCUSSION

Murphy et al reported that fPSA level could increase corresponding to the increase of total PSA. We suggest that BPH and PCa tissue secrete PSA with similar percentage of free PSA, the mechanism still remains unknown. So free-to-total PSA ratio does not provide additional diagnostic benefit compared with total PSA in differentiating BPH and PCa, further researches are required.

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