# Role of Prostate Specific Antigen in differentiating various Prostatic Pathology

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**Background**

The pathologic processes which affect the prostate gland with sufficient frequency to merit discussion are inflammation, benign prostatic hyperplasia, Prostatic Intraepithelial Neoplasia and malignancy. Many of these pathologic processes are associated with elevated serum Prostate Specific Antigen levels. Serum Prostate Specific Antigen can detect twice as many as prostate cancers digital rectal examination can and approximately 70% of these cancers are potentially curable. In our country many elderly men are unaware that something can be done for their troublesome urinary symptoms.

**Methods**

Fifty prostatectomy specimens were studied during a study period from 1st January 2003 to 30th December 2003 at Department of Pathology, Tribhuwan University Teaching Hospital, Institute of Medicine. Patients with history of enlarged prostate were studied. Blood samples were collected pre-operatively at the time of admission and detail clinical history was obtained along with USG findings. Histopathological sections were stained by Haematoxylin and Eosin for microscopic features. Total serum Prostate Specific Antigen level estimation was done using Prostate Specific Antigen serozyme kit, manufactured by adaltis Italia S.P.A via Magnanelli, 2, Italy.

**Results**

The study highlighted that 51.2% cases of benign lesions had values less than or equal to 4ng/ml, 48.8% had values between 4.1-10ng/ml, sensitivity of 100% and specificity 51.2%. 77.8% of the prostatic carcinoma showed elevated serum Prostate Specific Antigen values (>10ng/ml) with p-value=0.000004 and serum Prostate Specific Antigen values (>50ng/ml) in 44.4% of cases with significant p-value=0.001. The total serum Prostate Specific Antigen values in all cases of Prostatic Intraepithelial Neoplasia were found to be in between 0.4-10ng/ml. Similarly the weight of the prostate did not correlate with elevated serum Prostate Specific Antigen values, p-value=0.761 and Karl Pearson Correlation (r) =-0.044.

**Conclusions**

The test has a high sensitivity and specificity, is rapid and inexpensive and is minimally invasive. Therefore, serial annual Prostate Specific Antigen may provide an alternative means of screening men over 50 years of age.

**Keywords:** prostate cancer; prostate intraepithelial neoplasia; prosate specific anitigen levels; sensitivity; specificity.