

# Cancer Diagnostics Conference & Expo

June 13-15, 2016 Rome, Italy

## Prostatic tissue levels of chemical elements as cancer markers

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Prostate cancer is an internationally important health problem of the man, particularly in developed countries. The aim of this exploratory study was to evaluate whether significant changes in the prostatic tissue levels of chemical elements exist in the malignantly transformed prostate. Prostatic tissue levels of Al, B, Ba, Br, Ca, Cu, Fe, K, Li, Mg, Mn, Na, P, S, Si, Sr, and Zn contents were prospectively evaluated in 32 patients with benign prostatic hyperplasia (BPH) and 36 patients with adenocarcinoma (PCa). Intact prostates of 37 men who had died suddenly were used as the age-matched control group. Measurements were performed using a combination of non-destructive and destructive methods: Instrumental neutron activation analysis and inductively coupled plasma atomic emission spectrometry, respectively. Prostate tissue samples were divided into two portions. One was used for morphological study while the other was intended for chemical element analysis. It was found that the contents of Al, B, Ba, Br, Cu, Fe, Li, Mn, Si, and Sr were significantly higher while those of Ca, K, Mg, Na, S, and Zn were significantly lower in cancerous tissues than in BPH and normal tissues. Moreover, it was shown that the chemical elements mass fractions in prostate tissue, their ratios and other combinations are very informative markers of prostate cancer.

### Biography

Vladimir Zaichick has completed his PhD from Institute of Biophysics, Moscow and his DSc degree and Professor rank from Medical Radiological Research Center, Russia. He is a Member of the Scientific Council on Analytical Chemistry of the Russian Academy of Sciences, a Fellow of the British Royal Society of Chemistry and Chartered Chemist (since 1996), a Member of the American Society of Nuclear Medicine and some other Scientific Societies. He has published more than 100 papers in reputed journals and has 19 patents. He is serving as an Editorial Board Member of few scientific journals.

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