

## Assessing the role of Prostate-specific antigen in screening and diagnosis of prostate cancer

Radul Olga V, Chernomoretz Dasha V and Lysenko Victoria V.

Odessa National Medical University, Ukraine

**Introduction:** The current and important task of screening is the selection of patients for transrectal polyfokal prostate biopsy (TRPPB) controlled transrectal ultrasound, which is based on data prostate-specific antigen (PSA), digital rectal examination data and transrectal ultrasound (TRUS).

**Purpose:** is a determination of specificity, accuracy, and reliability of PSA for the diagnosis of prostate cancer (PC), depending on its absolute value.

**Materials and methods:** An analysis and a study of 316 patients' diagnostic data from 2006 to 2010, which carried out by TRPPB and controlled by TRUS within 10-14 points.

**Analysis and results:** If PSA levels of 0-4 ng/ml, then the benign processes in the prostate (BPP) were found in 80% of patients, while the PC is detected in 20% of cases. If PSA levels are 4-10 ng/ml, then BPP is in 55.7% of patients, and PC is in 44.3% of patients. If PSA levels are 10-20 ng/ml, then BPP is in 47.2% of patients, and PC is in 52.7% of patients. If PSA level is 20 ng / ml or more, then BPP is in 12.3% of patients, and PC is in 87.7% of patients. There is a high significant difference ( $p < 0,001$ ,  $t > 2,0$ ) in the frequency of detection of PC in marker levels between 20 ng/ml and more. If the PSA level at 0-4 ng/ml, then the specificity this marker is 20%; if PSA level at 4-20 ng/ml, then the specificity is at 52%; and if a PSA level at 20 ng/ml and more, then the specificity is at 88%. There is a relationship between age men and frequency of PC. The observed satisfactory reliability of differences ( $p < 0,05$ ,  $0,0 < t < 1,0$ ) was identified in the age group of men of 76 years and older.

**Conclusions:** As the absolute values of PSA increase, the probability of PC increases as well. There is an increased risk of PC in men of the age of 76 years and older. The specificity of the PSA marker for the diagnosis of PC is highest at values PSA more than 20 ng/ml. Increased PSA up to 20 ng/ml, in half of the cases was due to BPP, and therefore, for this category of patients a search requires more specific markers, thereby avoiding unnecessary biopsies and achieving efficiency and economical profitability.