

The role of 12-core TRUS biopsy in increasing the positive predictive value of cancer prostate in men whose total PSA between 3 and 10 ng/ml

Thesis Submitted for Partial fulfillment of Master Degree in Urology

BY

Youssef Ashraf Emil Ibrahim

M.B.B.Ch

Supervisors

Prof.Dr. Mohamed Nazim Fawzy

Professor of Urology

Faculty of Medicine

Al-Azhar University

Prof.Dr. Mohammed Kamal Saif El-Nasr

Assistant Professor of Urology

Faculty of Medicine

Fayoum University

Prof. Dr. Hussien Abd El-Hameed Aldaqadossi

Assistant Professor of Urology

Faculty of Medicine

Fayoum University

Faculty of Medicine

Fayoum University

2016

The role of 12-core TRUS biopsy in increasing the positive predictive value of cancer prostate in men whose total PSA between 3 and 10 ng/ml

Ibrahim YAE, Aldaqadossi HA, Saif El-Nsr MK, Fawzy MN

Despite the fact that several studies have been conducted to compare the traditional six-core trans-rectal prostate biopsy (TRPB) with the commonly practiced nowadays 12-core biopsies in terms of cancer detection rate (CDR), still there is need for more studies to compare these two techniques in different regions of the world and within different ranges of PSA. Knowing well the ethnic variations in Cancer prostate, it is unjustifiable to apply the results of a study conducted in one place in another. Therefore, we planned for this study to assess the role of 12-core TRPB in increasing cancer detection rate (CDR), and subsequently the positive predictive value (PPV) of PSA test among Egyptians especially within the Grey-zone (3-10ng/ml), if compared with the same parameters, in case of only six cores were obtained. We enrolled in our current study a total of 200 patients performed TRPB in Sayed Galal and Al-Hussien hospitals both affiliated to Al-Azhar University. The patients aged between 50 and 88. Average prostate volume as detected by TRUS was 73cc. All patients had 12-core trans-rectal prostate biopsies, the specimens were submitted in two containers at least; one contained the cores obtained through the traditional sextant technique, and the other contained the lateral sextant cores. Postoperative events were recorded in all patients. The pathological diagnoses were compared with the technique used. The results of our study revealed that the 12-core TRPB surpassed both the traditional and lateral sextant techniques and could increase the PPV of Grey-zone PSA from 20.5% to 25% if 12-core technique has replaced the traditional sextant technique. Moreover, 18% of cases detected through the 12-core TRPB would have been missed if only six para-median cores were obtained.

In conclusion, 12-core trans-rectal prostate biopsy (TRPB) is recommended in patients whose PSA value lays within the Grey-zone between 3 and 10ng/ml, as this decrease the false-negative results of the biopsy, thus increase the positive predictive value of PSA within these levels.