



Vienna Nomogram Versus Standard Twelve Core Transrectal Ultrasound Guided Prostate Biopsy : Safety And Efficacy

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Summary

This was a prospective randomized double blinded clinical study carried out on patients attending urology clinic in Fayoum University Hospital suspected to have prostatic cancer.

The aim of this study was to compare using the Vienna nomogram versus the standard 12-core transrectal ultrasound guided prostate biopsy regarding the overall detection rate of prostate cancer and complication rate.

During the period of this study, starting from march 2022 to september 2022, 119 patients were examined for eligibility , 19 patients were excluded and 100 patients met the inclusion criteria, patients was randomly allocated into either group A (N=50) or group B (N=50), by random numbers kept in sealed envelopes. Both the participants and the researcher were blinded.

In group (A) core number determination was according to the Vienna nomogram , and group (B) had the standard 12 core transrectal ultrasound guided prostate biopsy.

The Vienna nomogram based TRUS-guided biopsy core number determination group included 50 cases, with mean age 65.6 ± 6.7 , and median prostatic volume 64.9 cc, on the

other hand, the twelve core TRUS group included 50 cases, with mean age 64.7 ± 10 , and median prostatic volume 71.6 cc .

No statistically significant differences were found between both study groups indicating proper sampling and good matching between them.

The overall detection rate of PCa, in vienna nomogram group vs 12 core TRUS groups were 15/50 (30%) vs 14/50 (28%), respectively. The statistical difference was insignificant.

In this study, 602 and 600 cores were biopsied in Vienna nomogram group and 12 core TRUS group respectively with no statistical significant difference (p-value >0.05) between two groups as regards number of cores used , and number of positive cores .

in our study the complication rate after TRUS biopsy in our study was generally low, the complication rate percentage was as following :Hematuria 39% , Hematospermia 28% , UTI 27% rectal bleeding 3% , prostatitis 5%, fever 5%,epididmo-orchitis 5% .

However there was a statistical significant higher percentage of hematuria amongst group A with p-value

0.04. On the other hand, the hematuria were self-limited and there was no statistical significant difference with p-value >0.05 as regards other complications between two groups.

So based on the study results using Vienna nomogram for TRUS biopsy core number determination is a safe, efficient technique for diagnosis of prostate cancer and is as reliable as the standard systematic 12-core TRUS biopsy.