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Introduction & Objectives: More than 2 million biopsies of the prostate (PG) are performed annually worldwide while about 95% of them performed transrectally. The frequency of infectious complications after transrectal ultrasound-guided biopsy of prostate (TRUS-biopsy) is up to 17%, so antibiotic prophylaxis before the procedure is mandatory. The frequency of infectious complications of transperineal ultrasound-guided biopsy of prostate (TPUS-biopsy) is less than 1%. The need for antibacterial prophylaxis before TPUS prostate biopsy and its specific regimens are to be studied. The purpose of the study was to evaluate the safety of transperineal prostate biopsy without antibiotic prophylaxis.

Materials & Methods: a prospective randomized study included data of 125 patients who underwent perineal prostate biopsy from January to December 2021. Patients in the control group (n=50) received 1 g of ceftriaxone IV 1 hour before the biopsy, while patients in the study group (n=75) did not receive antibiotic prophylaxis before the procedure. The median age of patients was 63.5 years [52;75].

Results: There was no significant difference in the incidence of infectious complications (urinary tract infection, perineal soft tissue infection, prostatitis, fever, sepsis) between the groups. Only 1 patient in no-prophylaxis group had culture-confirmed urinary infections and fever.

Conclusions: The optimal regimen of antibiotic prophylaxis for TPUS prostate biopsy has not been determined, as well as the need for its use in general. Performing a transperineal prostate biopsy without antibiotic prophylaxis appears to be a safe alternative to common antibiotic prophylaxis regimens, allowing to reduce the use of antibacterial drugs without increasing the incidence of infectious complications. Further research is needed to investigate the safety of this approach.