MODERN ASPECTS OF DIAGNOSIS OF ACUTE AND CHRONIC PROSTATITIS

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***Relevance of the Issue**: Prostatitis is one of the most common urological conditions affecting men. According to medical statistics, up to 50% of men over the age of 50 experience symptoms of prostatitis at some point in their lives. This condition significantly reduces the quality of life by causing chronic pain, urinary problems, and sexual dysfunction. Additionally, it can lead to serious complications, including infertility and impaired sexual function. Therefore, developing effective diagnostic methods for prostatitis is a crucial task in contemporary medicine.*

***Study Objective**:The objective of this study is to evaluate the effectiveness of new clinical laboratory tests in the diagnosis of prostatitis compared to traditional methods.*

Study Method: A total of 100 men aged between 25 and 60, who presented to a urology clinic with complaints typical of prostatitis, were included in this study. The patients were divided into two groups:

First Group (50 patients): Diagnosed using traditional methods, such as urine analysis, digital rectal examination (DRE), and ultrasound examination (US) of the prostate.

Second Group (50 patients): In addition to traditional methods, new clinical laboratory tests were used, including tests for specific inflammatory markers (such as prostate-specific antigen - PSA, and C-reactive protein - CRP) and the use of multiplex PCR methods to detect infectious agents.

Detailed Methodology For the first group, the diagnostic process included the following steps: Urine Analysis: This test helps in detecting any urinary tract infections or abnormalities in the urine that could indicate inflammation or other issues. Digital Rectal Examination (DRE): A physical examination where a doctor inserts a gloved, lubricated finger into the rectum to check the size, shape, and consistency of the prostate. Ultrasound Examination (US): An imaging test that uses sound waves to create a picture of the prostate and surrounding tissues.

For the second group, in addition to the above traditional methods, the following advanced tests were conducted: Prostate-Specific Antigen (PSA) Test: Measures the level of PSA in the blood, which can be elevated in cases of prostate inflammation, infection, or cancer.C-Reactive Protein (CRP) Test: Measures the level of CRP in the blood, which increases when there is inflammation in the body.

Multiplex PCR: A method that allows simultaneous detection of multiple infectious agents that could be causing the prostatitis.

Results: The results of the study indicated that the use of new laboratory methods allows for more accurate diagnosis of prostatitis and

identification of its causes. Below are the detailed outcomes for each group:First Group (Traditional Methods):

Urine Analysis:Normal results: 35 patients (70%)Abnormal results indicating infection or inflammation: 15 patients (30%) Digital Rectal Examination (DRE):

Normal prostate: 20 patients (40%) Abnormal findings (e.g., enlargement, tenderness): 30 patients (60%) Ultrasound Examination (US): Normal prostate structure: 25 patients (50%) Abnormal findings (e.g., structural changes): 25 patients (50%)

Prostatitis Diagnosed: 30 patients (60%), Second Group (Advanced Methods):

Urine Analysis: Normal results: 30 patients (60%) Abnormal results indicating infection or inflammation: 20 patients (40%).Digital Rectal Examination (DRE):

Normal prostate: 15 patients (30%).Abnormal findings (e.g., enlargement, tenderness): 35 patients (70%).Ultrasound Examination (US): Normal prostate structure: 20 patients (40%) Abnormal findings (e.g., structural changes): 30 patients (60%)

Prostate-Specific Antigen (PSA) Test: Normal levels: 15 patients (30%) Elevated levels: 35 patients (70%) C-Reactive Protein (CRP) Test: Normal levels: 17 patients (34%) Elevated levels: 33 patients (66%) Multiplex PCR: No infectious agents detected: 30 patients (60%) Infectious agents detected: 20 patients (40%)

Prostatitis Diagnosed: 40 patients (80%) Diagram Data To present the data on a diagram, the following results can be summarized and visualized: Urine Analysis (Abnormal Results):First Group: 30% Second Group: 40%DRE (Abnormal Findings):

First Group: 60% Second Group: 70% US (Abnormal Findings): First Group: 50%

Second Group: 60% PSA Test (Elevated Levels): Second Group: 70% CRP Test (Elevated Levels): Second Group: 66% Multiplex PCR (Infectious Agents Detected):

Second Group: 40% Prostatitis Diagnosed: First Group: 60%Second Group: 80%

Recommendations Based on the conducted study, the following diagnostic algorithm for prostatitis can be recommended: Primary Diagnosis:Urine Analysis: Essential for detecting urinary tract infections and other abnormalities. Digital Rectal Examination (DRE): Crucial for physical assessment of the prostate.Ultrasound Examination (US): Important for visualizing the prostate and detecting structural abnormalities.

Additional Tests:Prostate-Specific Antigen (PSA) Test: Recommended for a more accurate detection of prostate inflammation.C-Reactive Protein (CRP) Test: Useful for identifying systemic inflammation that may be associated with prostatitis.

Multiplex PCR: Highly recommended for detecting specific infectious agents that may be causing prostatitis.Implementing this comprehensive diagnostic approach ensures a more precise identification of the presence and nature of inflammatory processes in the prostate, contributing to more effective treatment and improvement in patients' quality of life. This approach emphasizes the importance of combining traditional diagnostic methods with advanced laboratory tests to achieve the best possible outcomes in the management of prostatitis.

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