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ROLE OF URINARY CYTOLOGY IN THE EVALUATION OF STORAGE SYMPTOMS IN WOMEN

Hypothesis / aims of study

Urinary cytology is a test to look for abnormal cells in the urine, and it is mainly used for the evaluation of inflammatory or neoplastic disorders affecting the urethra, the bladder, the ureters and renal pelvis. For high-grade urothelial tumors and in-situ carcinoma, its specificity raises up to 90% with few false positives. Sensitivity may be improved by collecting three urine samples.

The aim of the study is to evaluate the role of urinary cytology in a sample of women with storage symptoms.

Study design, materials and methods

Multicentric study with a sample of 264 women complaining of storage symptoms.

Variables investigated: Age, cause of referral, main diagnosis, secondary diagnoses, medical and surgical background, drugs, toxics, urinary pH, urine analysis (nitrites, esterases, leucocytes, erythrocytes, squamous cells, cylinders, bacteria, crystals), urine culture, imaging studies, urinary cytology (no cells, cells (malignant, epithelial, squamous) leucocytes, erythrocytes, bacteria, *Candida*).

Statistical analysis: descriptive statistics, ANOVA, Student's t-test, Fisher's exact test. $p < 0.05$ was considered statistically significant.

Results

Average age 52.42 years (range 16-91). The 92.80% of the women complained of urinary frequency and urgency.

One patient without any risk factors, negative urine culture and showing squamous cells in her cytology was diagnosed with a high-grade bladder carcinoma in-situ.

Candida was identified in 4.66% of the cytologies (not shown in the urine culture).

Most frequent cytological findings were: epithelial cells (17.33%), no findings (9.33%), leucocytes (8.66%), leucocytes + bacteria (8%).

Interpretation of results

Storage symptoms may be present in a high variety of urological and gynecological disorders, and it is usually included in the definitions related to voiding and storage symptoms that obvious local pathologies should be excluded.

Moreover, we can find the following statement in the EAU Guidelines of non-muscle-invasive bladder cancer: "Carcinoma *in situ* might be suspected in patients with lower urinary tract symptoms, especially irritative voiding".

It is also mandatory to investigate microhematuria in patients with LUTD although no risk factors for urothelial carcinoma are present.

Concluding message

Given that urinary cytology can be clinically significant in women with storage symptoms and without risk factors for bladder cancer, it might be useful to include it in their study protocol.

References

1. EAU Guidelines on Non-muscle-invasive Bladder Cancer
2. ICS Terminology Report 2002

Disclosures

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