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CLINICAL USEFULNESS OF URINE CYTOLOGY IN THE DETECTION OF BLADDER TUMORS IN PATIENTS WITH NEUROGENIC LOWER URINARY TRACT DYSFUNCTION DUE TO SPINAL CORD INJURY

Hypothesis / aims of study

To investigate the clinical usefulness of a combination of cystoscopy and urine cytology for bladder cancer screening in patients with chronic neurogenic lower urinary tract dysfunction (NLUTD).

Study design, materials and methods

By a systematic chart review, we identified all patients that underwent combined cystoscopy and urine cytology testing. In patients with no suspicious cells in cytology and inconspicuous cystoscopy, no further diagnostic procedures were performed. In patients with suspicious findings either by cytology or by cystoscopy, a transurethral resection was performed.

Results

Results: 79 patients (age 54.8±14.3 years, 38 female, 41 male) were identified, using indwelling catheters in 44 patients (55.7%), intermittent catheterization in 18 patients (22.8%), and reflex voiding in 17 patients (21.5%). In 25 cases, cystoscopy revealed suspicious findings. In 17 patients, suspicious cells were detected by urine cytology. At histologic examination, no tumor was found in 15 patients, bladder cancer [superficial (n=2), or muscle invasive (n=3) urothelial cancer, muscle-invasive squamous cell carcinoma (n=1)] was found in six patients. Sensitivity of cytology and cystoscopy was both 83.3%, specificity was 43.7% for cytology, and 31.2% for cystoscopy, respectively. One patient with a bladder tumor was missed by cytology, three tumors were missed by cystoscopy. If a biopsy was taken only if both the cytologic and cystoscopic findings were suspicious, four patients would have spared the procedure, and one tumor would not have been diagnosed.

Interpretation of results

The number of participants and the retrospective nature of the analysis are limitations of the study.

Concluding message

a combination of cystoscopy and urine cytology can improve bladder tumor detection rates and lower the number of unnecessary biopsies

Disclosures

Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Ethikkommission Nordwest- und Zentralschweiz **Helsinki:** Yes **Informed Consent:** Yes