

THE CHALLENGE OF ASYMPTOMATIC BACTERIURIA AND SYMPTOMATIC URINARY TRACT INFECTIONS IN PATIENTS WITH NEUROGENIC LOWER URINARY TRACT DYSFUNCTION

Hypothesis / aims of study

Recurrent urinary tract infections (UTIs) in patients with neurogenic lower urinary tract dysfunction (NLUTD) affect the quality of life and jeopardize the upper urinary tract [1]. We therefore aimed to investigate the incidence of asymptomatic bacteriuria and symptomatic UTIs in patients with NLUTD.

Study design, materials and methods

A consecutive series of 317 patients (211 men, 106 women) with neurogenic LUTD undergoing urodynamic investigation were prospectively evaluated. Before urodynamics, urine samples were collected by sterile catheterization for dipstick testing and culture. At that time, no patient had clinical signs of symptomatic UTI. We performed multivariate analysis to identify predictors for asymptomatic bacteriuria and symptomatic UTIs and one-way ANOVA for comparison of the incidence of symptomatic UTIs in relation to the different types of bladder emptying.

Results

The underlying neurological disorder was spinal cord injury (SCI) in 210, multiple sclerosis in 35, disc disease in 22, spina bifida in 6, Parkinson's disease in 5 and other neurological diseases in 39 patients. The mean duration of the neurological disorder was 11.3±11.8 years. Most patients voided spontaneously (n=111) or relied on intermittent self-catheterization (n=141). Urine culture yielded bacterial growth in 61.2% (194/317) and a significant growth (>10⁴/mL) was detectable in 56.2% (178/317). *Escherichia coli* (19.6%) and *Klebsiella pneumoniae* (11%) were the most frequent bacteria. The symptomatic UTI rate was 1.1±2/year. In multivariate analysis, longer duration of the underlying neurological disorder and higher maximum cystometric capacity were the only independent predictors for symptomatic UTIs. Remarkably, no statistically significant difference (p>0.05) was found between the incidence of symptomatic UTIs in relation to the type of bladder emptying (spontaneous voiding: 0.8±2/year, intermittent self-catheterization: 1.5±3.4/year, indwelling catheter: 0.7±1.7/year).

Interpretation of results

Asymptomatic bacteriuria is very common in patients with NLUTD. It is usually the consequence of disturbed lower urinary tract function due to the underlying neurological disorder often requiring assistance in bladder emptying. Asymptomatic bacteriuria needs no treatment, in the case of symptomatic UTI, a targeted therapy according to the antibiotic sensitivity pattern is recommended.

Concluding message

The incidence of symptomatic UTI was only about 1 per year, although more than 60% of our patients had asymptomatic bacteriuria. This emphasizes that asymptomatic bacteriuria is negligible and needs no treatment in patients with neurogenic LUTD.

References

1. Manack, A., Motsko, S. P., Haag-Molkenteller, C. et al.: Epidemiology and healthcare utilization of neurogenic bladder patients in a US claims database. *Neurourology and urodynamics*, 30: 395, 2011

Disclosures

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