

LOWER URINARY TRACT DYSFUNCTIONS IN PATIENTS WITH CHRONIC METHYL MERCURY POISONING

Hypothesis / aims of study

Neurological disorder due to chronic methyl mercury (MeHg) poisoning represents somatosensory disturbances [1]. Patients with MeHg poisoning frequently report lower urinary tract symptoms (LUTS) such as urinary incontinence, although their condition has barely been surveyed [2, 3]. The aim of the current study was to clarify the epidemiology of LUTS and overactive bladder (OAB) according to the current ICS definitions in patients with chronic MeHg poisoning 50 years after pollution. We also reported therapeutic practice in them.

Study design, materials and methods

In total, 199 patients, who had been diagnosed with chronic MeHg poisoning according to the diagnostic criteria, were enrolled in the study. The performance status was good (World Health Organization Performance Status Score: 0 or 1) in all of them. Age- and gender-matched control participants were identified by random sampling. The patients filled in the International Prostate Symptom Score (IPSS) and OAB symptom score (OABSS) sheets. After the initial survey, standard pharmacological therapy was performed in those who desired treatment for their LUTS.

Results

Twenty-one patients (10.5%) were managed with intermittent or indwelling catheterization. Twenty-seven patients (13.6%) had already received pharmacological therapy for their LUTS; 9 alpha-blocker alone, 7 anticholinergic agent alone, 5 alpha-blocker plus anticholinergic, 4 alpha-blocker plus cholinergic agent, and 2 others. After excluding these 48 patients, the remaining 151 patients (61 men, 90 women, age median 71 years) were studied in comparison with 150 controls. In men, the total, storage, and voiding IPSS scores were higher in the MeHg poisoning group than in the control group (median 11 vs. 5, 5 vs. 2, and 6 vs. 3, respectively, $p < 0.001$ in all). In women, these scores were also higher in the MeHg poisoning group than in the control group (median 9 vs. 4, 4 vs. 2, and 5 vs. 1, respectively, $p < 0.001$ in all). The prevalence of urinary incontinence was more frequent in the MeHg poisoning group compared with that in the control group (36.4% vs. 18.7%, $p < 0.001$). In both men and women, the OABSS was higher in the MeHg poisoning group than in the control group (median 4 vs. 2, $p = 0.002$ and 5 vs. 3, $p < 0.001$, respectively). The residual urine volume was less than 100 ml in all of the MeHg poisoning patients. After the initial surveillance, 24 patients (15.9%, 12 men and 12 women) desired treatment for their LUTS. Of these, 5 men and 4 women (37.5%) reported no improvement of their symptoms with alpha-blockers and/or anticholinergic agents.

Interpretation of results

Patients with MeHg poisoning frequently reported severe LUTS and OAB regardless of genders. Although alpha-blockers and/or anticholinergic agents effectively alleviated their symptoms in about two-thirds of the patients, the remaining patients did not respond to standard pharmacological therapy.

Concluding message

The current study suggested a high prevalence of LUTS and OAB in patients with chronic MeHg poisoning. Pharmacological therapy frequently failed to relieve their symptoms, and further studies are thus warranted to clarify its mechanism.

References

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Disclosures

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