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DISTIGMINE BROMIDE, A CHOLINESTERASE INHIBITOR, SIGNIFICANTLY REDUCED POST-VOID RESIDUAL VOLUME IN PATIENTS WITH NEUROGENIC BLADDER DYSFUNCTION

Hypothesis / aims of study

This study aimed to clarify the clinical and urodynamic effectiveness of distigmine bromide, a cholinesterase inhibitor, in the treatment of voiding difficulty in patients with neurogenic bladder dysfunction (NBD).

Study design, materials and methods

We performed an uncontrolled, open trial of 10 mg/day of oral distigmine bromide in 12 patients (and 15 mg/day in one patient) with voiding difficulty and large post-void residuals (PVR) due to NBD resulting from multiple system atrophy in 4 cases, diabetes mellitus in 4, multiple sclerosis in one, cauda equine syndrome in one, primary amyloidosis in one, HTLV-1-associated myelopathy in one, and chronic idiopathic ataxic neuropathy in one. Symptomatic questionnaires and urodynamic investigations were performed before and 5.1±3.9 months after administration of the drug.

Results

After the treatment, voiding difficulty slightly improved and PVR significantly decreased (mean volume of 199±127 ml to 95±76 ml, $p = 0.01$ Figure 1). Patients with peripheral nervous system disorder such as diabetic neuropathy showed marked significant improvement. However, PVR was slightly increased in two patients with HTLV- associated myelopathy and multiple system atrophy. The average and maximum flow rates and detrusor contractility according to the Schäfer diagram improved, though not significantly. No obvious adverse effects, such as exacerbation of urgency, were observed.

Interpretation of results

We speculated that a combination of slight improvement in detrusor contractility / PdetQmax and improvement in maximum and average flow rates may have lead to the significant reduction in PVR after the treatment

Concluding message

Distigmine bromide might become an effective treatment to ameliorate voiding difficulty and large PVR in patients with NBD

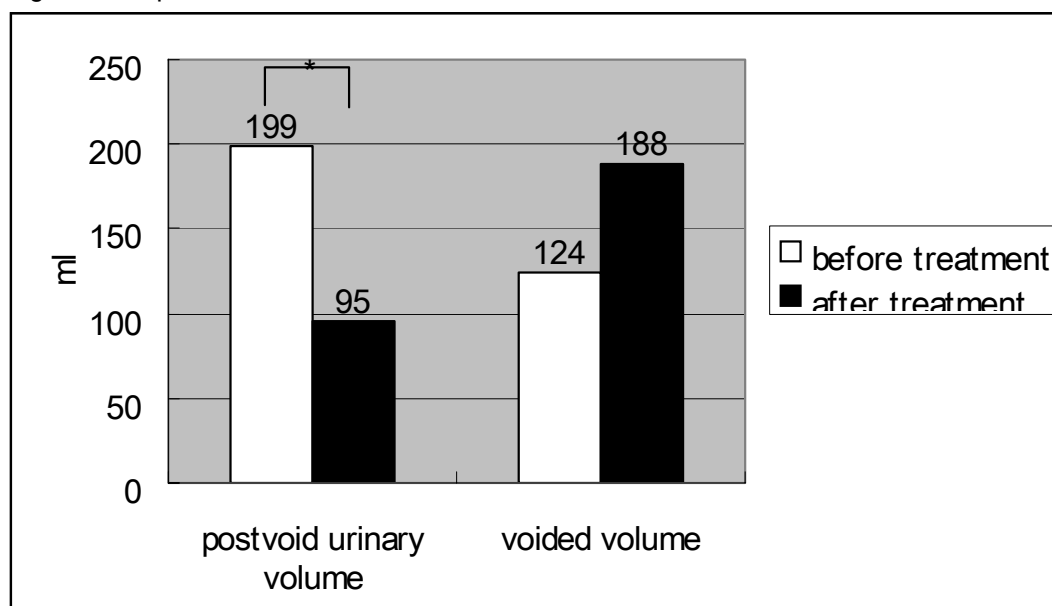


Figure 1 Post-void residual volume and voided volume before and after distigmine treatment. Post-void residual volume was significantly decreased after treatment (*p=0.01).