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Anticholinergics in overactive bladder and detrusor overactivity of spinal cord injury
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Keywords: Neurologic bladder; Spinal cord injury; Anticholinergics; Detrusor overactivity; Urodynamics

Goal.– To evaluate clinical and urodynamic effects of anticholinergics in the treatment of overactive bladder and/or detrusor overactivity of spinal cord injury (SCI).

Patients and methods.– Our retrospective study involved 231 SCI patients, between January 2007 and November 2009, treated with anticholinergics (trospium, oxybutynin) in combination with clean intermittent catheterization. Each patient underwent a clinical evaluation and urodynamic before and after anticholinergics. Our standard of clinical balance was no leakage between the catheterization (continence). The urodynamic evaluation included the maximum bladder capacity (BCMax) and amplitude of involuntary detrusor contractions (IDC). A BCMax exceeding 400 mL and an amplitude’s IDC less than 20 cmH2O sign urodynamic balance.

Results.– The average age of our population was 36.46 years with male predominance of 84.41% (195). 75 patients (32.24%) were clinically balanced including 25 (33.33%) with persistent detrusor overactivity. No CDI in 44 patients among 75 (58.66%). In contrast, 156 patients (67.53%) exhibited clinical - urodynamic imbalance including 83 (53.20%) with CDI above 40 cmH2O and/or BCMax of 252 mL on average.

Discussion/conclusion.– The imbalance of clinical neurologic bladders of SCI, although appearing as responsible for social disability, often conceals a urodynamic imbalance which can be deleterious in the short, medium and long term compromising the functional vesicoareal or even vital outcome. The literature data underline the importance of anticholinergics often limited by frequent side effects, dependent or not on the dosage and/or route of administration. Our study suggests that the clinical effects of oral anticholinergic drugs, usually used as first line treatment in this indication, must be controlled with urodynamic testing, the only true predictor of prognosis.

References


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Is it possible to replace the 24-hour creatinine clearance by easier methods to assess the renal function of patients with neurogenic bladder?
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Purpose.– Renal impairment has, for a long time, been one of the first causes of death in spinal cord injured patients. The recommended method for assessing renal function in common practice is the 24-hour creatinine clearance (Cl24H), which is a highly tedious exam due to the difficulties found in the urinary collection process. This gives rise to an interest in investigating alternative methods. Can the more practical methods available in common practice such as, the Cockcroft or MDRD-4 equations or ultrasound, be used in patients with partial neurological deficiencies?

Patients and methods.– A renal assessment was performed on 121 patients with varying neurological diseases (multiple sclerosis, spinal cord injury, Parkinson’s disease... ) during their medical follow-up through the 24-hour urinary creatinine clearance (Cl24H), an estimation of the creatinine clearance according to the Cockcroft-Gault and MDRD-4 equations and a renal ultrasound. Their level of mobility was taken into account.

Results.– The Pearson’s correlation coefficient between Cl24H and creatinine clearance estimated by the Cockcroft-Gault and MDRD-4 equations was low (respectively 0.416 and 0.265). It was found that there was very little improvement in patients able to walk (results were respectively 0.549 and 0.381). The sensitivity and the negative predictive value of an abnormal renal ultrasound used in the screening of renal dysfunction were respectively of 13.7% and 56%.

Conclusion.– Regardless of the mobility level involved, the Cl24H could not be replaced by the Cockcroft-Gault or MDRD-4 equations or a renal ultrasound in patients with neurogenic bladder disorders.

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200/300 IU intradetrusor botulinum injections
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Keywords: Neurologic bladder; Detrusor botulinum toxin; Detrusor overactivity; Urodynamics

Objective.– The present study is conducted to assess the frequency of urinary tract infection (UTI) following urodynamic evaluation in patients whom bladder emptying is performed with clean intermittent catheterization (CIC) and who do not receive antibiotic prophylaxis treatment.

Patients and methods.– This was a prospective study, conducted at the Centre de l’Arche on 100 patients on CIC who had a urodynamic evaluation without antibiotic prophylaxis treatment. Patients with cognitive impairment and patients with known vesicoureteral reflux were excluded from this study. All patients were recalled 8 days following the urodynamic evaluation to assess whether they presented UTI symptoms (spasticity, incontinence, cloudy urine, fever...).

Results.– One hundred patients (63 males, 37 females) with the mean age of 41.4 years (range, 11–81 years) were included in this study. Fifty-six paraplegic, 13 tetraplegic, 11 spina biﬁda, 9 multiple sclerosis, 11 another etiology. Ninety-seven patients were self-catheterized, including 2 with continence cystostomy, 1 was hetero catheterized, and 2 were both self- and hetero-catheterized. Two patients were lost to follow-up. Of the 98 patients who were available for follow-up assessment:
– 87 patients had no signs of infection;
– 8 patients reported one or 2 clinical signs of infections, very mild to mild in intensity. All clinical signs resolved within 48 hours, either spontaneously or following increased water intake. Only one of these patients had a 3-h fever episode 7 days after examination, which resolved spontaneously;
– One patient self treated with a 3-day course of antibiotics, upon occurrence of increased spasticity and foul smelling urine;
– One patient was prescribed antibiotic treatment following high fever and cloudy and hematuric urine 5 days after examination and one patient had antibiotic treatment following signs of infection without fever 7 days after examination.

Discussion.– We report a very low incidence of urinary tract infection that required antibiotic treatment, in these CIC patients not receiving antibiotic prophylaxis for urodynamic evaluation. Since this study, we did not change our usual practice.

We did not find clear recommendations in our literature search. This study is a first step that could be completed by a large, multicenter study to confirm our findings.

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