dix lésions médullaires, deux scléroses en plaques, et trois vessies neurologiques de cause non identifiée. L'EA était réalisée avec de l'iléon pour 16 cas et avec du côlon pour huit cas. Une cystectomie sus-trigonale était associée dans 15 cas. L'échec de l'EA était immédiat dans 11 cas et retardé dans 14 cas. En cas d'échec retardé, le délai moyen par rapport à l'EA était de 10,4 ans (1–26 ans). Les injections de BoNTA amélioraient les symptômes, complètement ou partiellement, dans 15 cas sur 27 (55,5 %). Le succès clinique était associé à une demande de réinjection pour 14 patients (51,9 %).

*Discussion*.– Dans notre étude, les injections intradétrusoriennes de BoNTA apportaient un bénéfice clinique significatif chez 55,5 % des patients. Les injections de BoNTA sont donc une option thérapeutique à considérer en situation de recours en cas d'HDN rebelle chez un patient ayant bénéficié d'une EA.

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## Écologie bactérienne et profils de résistance aux antibiotiques chez les patients avec hyperactivité du détrusor d'origine neurologique traités par injections de toxine botulique intradétrusorienne

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*Mots clés :* Toxine botulinique A ; Hyperactivité du détrusor ; Sclérose en plaques ; Blessés médullaires ; Écologie bactérienne ; Antibiotiques

La toxine botulique A est le traitement de référence de l'hyperactivité du détrusor neurologique. Chez ces patients le mode mictionnel est habituellement l'autosondage propre intermittent. Les colonisations sont fréquentes et l'injection intradétrusorienne présente un risque septique.

*Objectif*.– Étudier la prévalence des différents germes et leurs profils de résistance aux antibiotiques dans une population de patients neurologiques, dont l'hyperactivité détrusorienne était traitée par injections endovésicales de Botox.

*Matériel et méthodes*.– Cette étude prospective s'est déroulée de septembre à octobre 2012 dans un service de neuro-urologie. Quatre-vingt-un patients ont eu un ECBU avant l'injection. Tous avaient une vessie neurologique centrale avec hyperactivité du détrusor en urodynamique. Nous avons calculé les prévalences des différents germes, et les taux de résistances à chaque classe antibiotique.

*Résultats*.– Quarante-six germes étaient identifiés sur 45 ECBU. Un *Escherichia coli* était isolé dans 43,21 % des cas, 7,41 % *Klebsiella pneumoniae*, 2,47 % *Citrobacter freundii* et entérocoques, 1,23 % *Staphylococcus aureus*. Une résistance aux pénicillines était retrouvée dans 52,17 %, aux céphalosporines de troisième génération dans 10,87 %, aux fluoroquinolones dans 28,26 % et aux sulfamides dans 26,09 %. Il n'y avait pas de résistance à la fosfomycine.

*Discussion*.– Nous retrouvions un taux de colonisation moindre en comparaison des données de littérature, concernant les patients pratiquant l'autosondage intermittent (52 % contre 60 à 70 %). [1] Nous ne retrouvions pas de résistance à la fosfomycine ; toutefois il n'a pas été à notre connaissance fait la preuve de l'utilité d'une prophylaxie systématique en cas d'uroculture négative (malgré les recommandations accompagnant l'autorisation de mise sur le marché française) [2].

*Conclusion*.– Nous retrouvons avec une grande fréquence un *E. coli* dans les urines de ces patients sous autosondages. Tous les germes isolés étaient sensibles à la fosfomycine, suggérant son utilisation préférentielle en cas d'antibioprophylaxie probabiliste systématique avant injection de toxine botulique intradétrusorienne.

*Références*

[1] Chartier-Kastler E, Denys P. Intermittent catheterization with hydrophilic catheters as a treatment of chronic neurogenic urinary retention. Neurourol Urodyn 2011;(30):21–31.

[2] Recommandations de bonnes pratiques cliniques: l'antibioprophylaxie en chirurgie urologique, par le Comité d'infectiologie de l'association française d'urologie. Prog Urol 2010;20(2):101–8.

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# Oral communications

*English version*

CO41-001-e

## Bladder dysfunction and extrapyramidal syndrom

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Urinary Dysfunction associated with extrapyramidal syndromes

The importance of the neurological control in micturition and continence is once more illustrated by the high frequency of urinary disorders associated with extrapyramidal syndromes. Several questions can arise when a clinical practitioner assesses urinary dysfunction in this nosological context.

First of all, the characteristics of urinary dysfunction in Parkinson's disease and in Multiple System Atrophy must be known. Indeed, among the clinical means and the pharmacological responses used to establish a diagnostic, urinary disorders and their related paraclinic data are quite useful guides.

Secondly, the Parkinson's disease being age-related, there are frequent physiopathological interactions between the urological disorder (prolapse, benign prostatic hypertrophy...) and the neurological dysfunction of the urinary system which raise specific problems as far as the treatment plan is concerned.

Finally, the prescription of drugs that are pharmacologically active on the bladdermust be cautiously targeted and arranged so as to be really effective and to avoid any side effects.

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## Urodynamic study of lower urinary tract symptoms in Ehlers Danlos syndrome

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*Keywords:* Urodynamics; Ehlers Danlos syndrome; Opioids

*Introduction*.– Lower urinary tract symptoms (LUTS) in Ehlers-Danlos Syndrome (EDS) not enough described by now, are often reported during consultations.

*Objective*.– Precise the LUTS type and search any correlation with EDS.

*Methods*.– Retrospective study of clinical parameters (dysuria, nycturia, constipation, urinary tract infections, MHU score, antalgic opioid treatments (OT) with an impact on the LUT function, self-catheterizations, perineal muscles quality) and urodynamic parameters for 34 EDS hypermobile patients and 28 controls, random selection, free of neurologic injury, with an urodynamic study (UDS) realized as defined by the ICS.

*Results*.– From the clinical parameters, dysuria and MHU retention score are significantly more frequent in EDS patients. There is a significant difference between the EDS without OT and controls.

From the urodynamic parameters, the underactive detrusor is significantly more frequent in EDS group and it is significantly correlated with the postvoid residue (PVR). We also found a significant correlation between the underactive detrusor of EDS patients and OT, $p < 0.05$, and between PVR and OT: $96.5 \pm 288$ [0; 700] versus $7.14 \pm 37.8$ [0; 200] for controls, $p < 0.05$.

For the other parameters there is no significant difference between the two groups.

*Discussion*.– Dysuria and PVR are significantly more frequent in EDS and incontinence for the controls. Dysuria and PVR are correlated with OT with a significant difference between EDS without OT and controls. Dysuria and PVR

are significantly correlated to the underactive detrusor in EDS patients with or without OT.
Can we explain this by the conjunctive tissue modification due to EDS? There is a strong correlation between underactive detrusor, respectively PVR and OT. So we can't conclude to any LUTS specific to EDS.
*Conclusion*.– Dysuria and PVR are frequent in EDS but strongly correlated with the OT.
*Further reading*
Beighton, P. et al. Ehlers-Danlos syndromes: revised nosology, Villefranche 1997, Am. J. Med. Genet. 1998; 77: 31-37.
Schafer W et al. International Continence Society. Good urodynamic practices: Uroflowmetry, filling cystometry and pressure-flow studies. Neurol Urodyn 2002; 21 (3): 261-74.
McIntosh LJ, et al. Ehlers-Danlos syndrome: relationship between joint hypermobility, urinary incontinence and pelvic floor prolapse. Gynecol Obstet Invest. 1996; 41(2):135-9.

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CO41-003-e

## Long-term follow-up and failure predictors of Botox® 300 UI injections in the treatment of neurogenic detrusor overactivity (NDO)

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*Keywords:* Intravesical botulinum toxin; Neurogenic detrusor overactivity
*Objective*.– To determine in daily practice, the failure rate of treatment with Botox® 300UI of NDO and analyze the causes of failure and their predictors.
*Method*.– Retrospective (2002–2011) monocentric study of patients with overactive bladder, treated with 300 IU Botox® and self-catheterized. The evaluation criteria were clinical, urodynamic and ultrasound.
The time to occurrence of failures was estimated by the Kaplan Meir. Groups were compared by the log rank test and Cox model.
*Results*.– One hundred and eighty-three patients were included (165 SCI, 18 multiple sclerosis (MS)). At 3 years, 152 patients continued injections of intravesical botulinum toxin (83%) and 138 patients after 5 years (75.4%). We differentiated the true failures (32 patients), from discontinuation of treatment for side effects, poor tolerance of injections or neurological outcome.
In the group of MS, there was only one true failure, other patients discontinued treatment for other reasons, including the worsening of the disease.
In the group of patients who failed treatment, we find significantly in univariate analysis:
–leakages after first injection, at 3 years ($p < 0.0001$) and at 5 years ($p < 0.0001$);
–presence of febrile urinary tract infection after 1st injection, at 3 years ($p = 0.01$);
–existence of detrusor overactivity after first injection, at 3 years ($p = 0.05$);
–poor compliance before first injection, at 5 years ($p = 0.04$);
–maximum detrusor pressure after first injection, at 3 years ($p = 0.005$) and at 5 years ($p = 0.0004$).
In multivariate analysis, the following were significantly predictive of failure: leakages after 1st injection a t 3 years ($p = 0.01$) and at 5 years ($p = 0.0004$), sex of patients at 5 years ($p = 0,01$).
The rate of symptomatic urinary tract infections was significantly reduced after toxin injection ($p < 0.0001$).
*Conclusion*.– This study, which is representative of daily practice in a neuro-urology center, confirmed the effectiveness and safety of injections of 300 IU of Botox®. Some factors seem predictive of failure of intra-detrusor botulinum toxin (i.e. leakage after first injection).

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## Continent catheterizable vesicostomy and injections of intravesical botulinum toxin for the treatment of overactive bladder: Case series

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*Keywords:* Continent cystostomy; Botulinum toxin; Enterocystoplasty; Overactive bladder; Multiple sclerosis
*Introduction*.– The aim was to evaluate neurologic patients with stable and capacitive bladder under injections of intravesical botulinum toxin who are unable to perform self-intermittent catheterization through the native urethra who need continent vesicostomy, without augmentation enterocystoplasty.
*Patients*.– We identified all patients with stable neurogenic bladder under injection of botulinum toxin realizing self-catheterization or by a helper but unable to achieve them through unrethra, that underwent a continent vesicostomy between 2008 and 2012. Indication, surgical technique, complications, voiding method and quality of life were analysed.
*Results*.– We considered four women suffering from spinal cord injury (one) or multiple sclerosis (three), unable to achieve self-catheterization through urethra because of functionnal loss of upper limbs or adductors spasticity or increase of weight. The surgical technique was vesicostomy using the Mitrofanoff principle, without enterocystoplasty, because of bladder stability under médical treatment and comorbidities; the native bladder was fixed to the inner face of the abdominal wall. The mean operation time was 188 min. Minor complications (stoma stenosis and wound dehiscence) and quality of life were not different from patients who underwent enterocystoplasty. One patient had a Bricker three years after first surgery.
*Conclusion*.– Injection of botulinum toxine for overactive bladder seems to be an alternative to enterocystoplasty when realizing continent cystostomy in neurologic patients with comorbidities like multiple sclerosis. However, evolutivity of the pathology may lead to a second surgery due to inability to achieve catheterization through urethra or loss of efficiency of botulinum toxin.

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## Botulinum toxin type A injections in the augmented bladder after failure of augmentation enterocystoplasty in neurological patients: A retrospective multicenter study

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*Keywords:* Botulinum toxin; Bladder augmentation; Enterocystoplasty; Neurogenic detrusor overactivity; Neurogenic bladder
*Objectives*.– Augmentation enterocystoplasty (AE) is a third-line treatment for neurogenic detrusor overactivity (NDO). When the outcome of an AE is