

Tuesday 24 June 10.30–11.30

Poster Session 1: Voiding Dysfunction

Chairmen: C. Chapple and L. Stewart

P001

Can oral antibiotic prophylaxis reduce the rate of infection after conventional urodynamic studies?

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INTRODUCTION

Conventional urodynamic studies (UDS) are a common urological procedure that may be complicated by UTI. In a prospective randomized controlled trial we investigated the effectiveness of a single oral dose of antibiotic given as prophylaxis at the time of UDS in preventing UTI.

PATIENTS AND METHODS

In all, 543 patients underwent UDS as part of their urological investigation; they were randomly assigned to receive oral placebo or a single oral dose of either ciprofloxacin (500 mg) or trimethoprim (200 mg), given 1 h before UDS. A MSU sample was taken before the selected treatment and repeated ≈ 7 days after the procedure. UTI was defined as $> 10^5$ cfu/mL on routine culture. Patients were

excluded if they had a history of UTI, were taking antibiotics, had a prosthetic heart valve or joint replacement, or were using clean intermittent catheterization.

RESULTS

The frequency of UTI in each of the three arms of the study was:

Group	n	UTI, %		
		before UDS	after UDS	'de novo'*
Placebo	224	6.7	6.7	3.3
Ciprofloxacin	211	4.3	9.0	5.9
Trimethoprim	108	1.9	4.9	3.8
Total	543	4.6	7%	4.4

*positive MSU after UDS in a patient who had a sterile specimen beforehand.

Comparing the placebo group with patients receiving either ciprofloxacin or trimethoprim, there was no significant difference in the rate of UTI after UDS.

CONCLUSION

UDS are associated with a low frequency of UTI. There was no benefit in using prophylactic antibiotics in patients undergoing UDS.

Funding: Northern and Yorkshire NHS R&D, Freeman Hospital Trustees

P002

Minimally invasive outpatient administration of intradetrusor botulinum toxin-A for the overactive bladder

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*National Hospital for Neurology and Neurosurgery, and *Guy's and St Thomas' Hospital, London, UK***INTRODUCTION**

The intradetrusor injection of botulinum toxin type A (BTX-A) appears to be an effective new treatment for intractable detrusor overactivity (DO). At present, BTX-A is usually administered by rigid cystoscopy under general anaesthesia, using custom-made needles. However, patients with intractable neurogenic incontinence may have advanced progressive neurological disease and be unsuitable for general anaesthesia. We have set up an outpatient service for the local anaesthetic administration of intradetrusor BTX-A, using the standard flexible cystoscope.

PATIENTS AND METHODS

The project was approved by the local ethics committee. Eleven patients have had an outpatient day-case intradetrusor injection of BTX-A (seven women and four men; eight with neurogenic and three with idiopathic DO). After obtaining informed consent, lignocaine gel is instilled intraurethraly and the bladder accessed using a standard flexible cystoscope. This accommodates a 27 G flexible injection needle, with a working length of 1050 mm and a needle length of 4 mm. We inject either 200 (for idiopathic DO) or 300 (for neurogenic DO) units of BTX-A dissolved in 20–30 mL of 0.9% saline; 20–30

separate sites are injected with 1 mL each, avoiding the trigone.

RESULTS

The procedure is effective, takes <30 min and is well tolerated by patients, with no significant side-effects. The mean pain score was 4/10.

CONCLUSIONS

Flexible cystoscopic intradetrusor injection with BTX-A is a technically feasible procedure for local anaesthetic outpatient practice, and should be considered as the preferred route of administration in treating DO.

P003

Minimally invasive treatment of overactive bladder with botulinum toxin-A: initial outcomes

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*National Hospital for Neurology and Neurosurgery, and *Guy's and St Thomas' Hospital, London, UK***INTRODUCTION**

Intradetrusor injection with botulinum toxin-type A (BTX-A) appears to be effective in treating intractable detrusor overactivity (DO). Currently it is given in theatre via a rigid cystoscope. We have set up an outpatient service to administer outpatient intradetrusor BTX-A under local anaesthesia, using the standard flexible cystoscope, and analyse the results to date.

idiopathic DO; mean age 45.2 years). The bladder is accessed using a standard flexible cystoscope, which accommodates a 27 G flexible injection needle. We inject either 200 (for idiopathic DO) or 300 (for neurogenic DO) units of BTX-A at 20–30 separate injection sites (10 units/mL and per site). Patients were assessed using a voiding diary, urinary symptom questionnaire and cystometry, before treatment and at 4 and 16 weeks afterward.

(SEM) of 235.8 (71.7) to 501.6 (109.3) mL, the voiding frequency decreased from 13.0 (1.30) to 6.80 (0.84), and episodes of incontinence decreased from 4.20 (2.6) to 0.44 (0.4).

CONCLUSIONS

This early experience suggests that intradetrusor injections of BTX-A are highly effective as a minimally invasive means of treating DO refractory to first-line oral treatments.

PATIENTS AND METHODS

Eleven patients have undergone intradetrusor injection with BTX-A (seven women and four men; eight with neurogenic and three with

RESULTS

All patients had a marked objective improvement in LUTS. The maximum cystometric capacity increased from a mean

P004

Evaluating botulinum-A toxin injection for treating voiding dysfunction

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*Heatherwood and Wexham Park Hospital, UK, and *Cleveland Clinic Foundation, Ohio, USA***OBJECTIVE**

Botulinum A toxin (Botox) is a potent muscarinic receptor antagonist and may reduce involuntary contractions of the detrusor responsible for urgency, frequency and urge incontinence. Injection of the external urinary sphincter with Botox may relieve BOO and promote efficient bladder emptying. The objective was to present early experience with Botox injection in treating refractory overactive bladder (OAB) and BOO caused by detrusor sphincter dyssynergia (DSD).

PATIENTS AND METHODS

Forty-one patients were injected with Botox (21 with refractory OAB and 20 with DSD). Patients completed a voiding diary, bladder perception (OABq), and quality-of-life questionnaires (UDI6 and IIQ7) before injection and at 3, 6 and 12 months afterward.

RESULTS

The 3-month follow-up was completed for 18 of the 41 patients (11 with OAB and seven with DSD). Botox treatment achieved either a

cure or an improvement in ratings relative to baseline for 15 patients (nine with OAB and six with DSD), while in three (two with OAB and one with DSD) the treatment failed. There were no complications, other than UTI after treatment in one patient with OAB.

CONCLUSION

Botox injection either in the detrusor muscle or in the urethral sphincter is effective in treating voiding dysfunction. Based on this pilot study, a multicentre prospective trial with a long-term follow-up is warranted.

P005

The long-term follow-up of female idiopathic detrusor overactivity

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Aberdeen Royal Infirmary, and Bristol Urological Institute, UK*INTRODUCTION**

The prevalence of overactive bladder (OAB) syndrome in Western Europe is 16–17%. The most common underlying cause of OAB symptoms is detrusor overactivity (DO), diagnosed on urodynamics. We conducted a longitudinal study to assess the 10-year urodynamic and symptomatic follow-up of women previously diagnosed with idiopathic detrusor overactivity on urodynamic assessment in our institution.

PATIENTS AND METHODS

Women with idiopathic DO and no evidence of BOO or relevant neurological lesion on

urodynamics 10 years previously were traced. They were invited to undergo repeat urodynamics and a validated symptom assessment, or symptom assessment alone. A computerised, standardised history was repeated in all women. Those patients who declined to participate were asked to complete the BFLUTS questionnaires to assess their symptom severity.

RESULTS

Of 2274 urodynamic traces were reviewed, 280 had idiopathic DO, and of these patients 174 were alive and an address was found; 156 replies were received (90%) and 113 patients agreed to participate (65%). Of 56 patients

having repeat urodynamics, 51 (90%) had DO; 28 of 32 patients had OAB symptoms on symptom assessment (88%) and 18 of 22 who declined to participate had OAB symptoms (82%).

CONCLUSIONS

DO was found in 91% of patients attending for repeat urodynamics after 10 years. Symptoms of OAB were still present in 82–88% of those who declined repeat urodynamics. DO appears to be a persistent chronic condition at the 10-year follow-up.

Funding: Pharmacia Corp

P006

A positron emission tomography (PET) brain imaging study of the mechanism of sacral neuromodulation in voiding dysfunction

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*National Hospital for Neurology & Neurosurgery, *Wellcome Department of Imaging Neuroscience, UCL, London, UK, and †Florida State University, FL, USA***INTRODUCTION**

Sacral nerve stimulation (neuromodulation) has been shown to restore voiding in women with urinary retention caused by urethral sphincter overactivity. Its mechanism of action is unclear, although the restoration of the sensation of bladder filling suggests an afferent pathway. Functional imaging techniques have started to provide valuable insights into the neural processes of bladder interoception. We used PET scanning to assess whether bladder fullness activates different brain regions in patients with retention, compared with healthy volunteers, and whether neuromodulation 'normalizes' this activation.

PATIENTS, SUBJECTS AND METHODS

Seven women (aged 42–60 years) have undergone PET brain scanning to date, with 12 scans per subject; this included four patients with an operational sacral nerve stimulator and three healthy controls. A 2 × 2 experimental model was used for the volunteers, with the bladder either empty or full, while patients were scanned in two sessions, with the stimulator either on/off and the bladder full/empty. The scan order was randomized to minimise sessional effects. Bladder volume was measured using portable ultrasonography, and the subjective sensation of urgency was scored using a validated scale of 0–4.

RESULTS

Bladder fullness was associated with increased activation of peri-aqueductal grey (PAG) and cingulate cortex in healthy volunteers, unlike in patients with the stimulator switched off. Increased PAG activity with a full bladder was detected in patients with the stimulator switched on.

CONCLUSION

Neuromodulation may work by 'normalizing' the state of activation of supraspinal centres such as the PAG and cingulate cortex.

Funding: Wellcome Trust project grant

P007

A 5-year follow-up of sacral neuromodulation for women with urinary retention

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*National Hospital for Neurology & Neurosurgery, London, UK***INTRODUCTION**

Sacral neuromodulation has been shown to restore voiding in young women with urinary retention, including those who have urethral sphincter overactivity as detected by electromyography (EMG). The long-term efficacy and side-effect profile have not been described in these patients beyond 18 months, and we present the results from one tertiary referral centre.

PATIENTS AND METHODS

The case notes of women implanted with a sacral nerve stimulator for urinary retention between 1996 and 2002 were reviewed. The presence of sphincter EMG overactivity,

length of follow-up, side-effects and revision operations were noted. The most recent uroflowmetry results were recorded for patients who continued to void successfully.

RESULTS

Of 26 women (mean age 35 years, range 22–52), 21 had an abnormal sphincter EMG and four partial retention. The mean (range) follow-up was 37 (2–73) months; 25 patients voided after surgery, and 20 (77%) are currently voiding spontaneously (two are deactivated as they are pregnant). Of those with complete retention in whom voiding was restored (18), the mean (range) maximum urinary flow rate was 20.8 (6.2–50.8) mL/s, the voided volume 385 (96–901) mL, and the

postvoid residual 75 (0–479) mL. Twelve patients had no revision operations, but in all 21 revision procedures were needed in the other 14.

CONCLUSION

Over three-quarters of patients who otherwise face long-term self-catheterization continue to void spontaneously. However, half have required revision surgery, although this was often minor. Therefore, the meticulous preoperative selection of patients is essential, and possibly a two-stage implant procedure if indicated.

Funding: Medtronic grant

P008

Sacral nerve stimulation in the treatment of refractory interstitial cystitis

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Heatherwood and Wexham Park Hospitals, UK, and Cleveland Clinic Foundation, Ohio, USA*INTRODUCTION**

Sacral nerve stimulation has been used for urge incontinence, urgency and frequency, and urinary retention; it has also been used to treat the symptoms of interstitial cystitis (IC). We evaluated the efficacy of sacral nerve stimulation for treating refractory IC.

PATIENTS AND METHODS

We reviewed a series of 20 consecutive women with IC refractory to medical and intravesical therapy who underwent either percutaneous sacral nerve stimulation or permanent lead implantation. Those with a

≥50% improvement in symptoms were fitted with a permanent generator. The symptomatic response to treatment was measured by changes in a bladder pain scale (0–10, 0 severe pain and 10 pain-free), frequency, nocturia, and decreased medication intake (by diary).

RESULTS

After initial sacral nerve stimulation, 13 patients had a complete sacral nerve stimulator placed; one patient was lost to follow up. The mean bladder pain changed from 0.92 to 6.16, and the mean frequency and nocturia decreased from 24.3 and 6.25 to

9.42 and 3.0, respectively. After placing a permanent sacral nerve stimulator two women are off medication, six have reduced their medication and four are unchanged. Three of the 12 women required further therapy with hydrodistension or bladder injections with botulinum-A toxin.

CONCLUSIONS

Sacral nerve stimulation may relieve the symptoms of refractory IC and might be an important adjunctive therapy for treating this difficult problem. Our results support the hypothesis that IC may be best managed by multimodal therapy.

P009

Comparison of detrusor myectomy and enterocystoplasty for bladder overactivity

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Partial detrusor myectomy was developed in response to the complications of augmentation enterocystoplasty. We evaluated and compared the outcome in patients undergoing enterocystoplasty or detrusor myectomy for detrusor overactivity.

PATIENTS AND METHODS

All patients undergoing detrusor myectomy (11) or ileocystoplasty (15) over a 42-month period were assessed retrospectively. All surgery was undertaken by one consultant. The diagnosis was confirmed before surgery by standard urodynamics; in all patients conservative and medical treatment had failed. The morbidity, clinical and urodynamic

outcomes were compared, with a minimum follow-up of 1 year.

RESULTS

Twenty-two patients had detrusor instability; two in each operative group were diagnosed with neuropathic hyper-reflexia. There was an overall improvement in eight of 11 of those with detrusor myectomy and 12 of 15 of those undergoing ileocystoplasty. The hospital stay was comparable, at a mean of 8.8 days after myectomy and 8.7 days after ileocystoplasty. There were two major complications, i.e. wound dehiscence requiring re-closure 10 days after detrusor myectomy and a small bowel leak. After ileocystoplasty, two patients reported significant bowel symptoms and two had

problems attributed to mucus production. Seven myectomy and 10 ileocystoplasty patients continued regular clean intermittent self-catheterization at the last review. One patient in each group has undergone subsequent urinary diversion procedures. Three patients required anticholinergic medication after detrusor myectomy and two remained incontinent after ileocystoplasty; all had persistent urodynamic instability.

CONCLUSIONS

After detrusor myectomy only two patients had no appreciable improvement, either clinically or objectively. In this series detrusor myectomy compared favourably with ileocystoplasty. A prospective comparison of the techniques and their long-term outcomes is required.