

W10: Neuro-Urology: an Update in Pathophysiology, Diagnosis and Therapy (Part I) Discussion on Challenging Cases (Part II)

Workshop Chair: Rizwan Hamid, United Kingdom - Co-Chair Helmut Madersbacher, Austria
13 September 2016 13:30 - 16:30

Start	End	Topic	Speakers
13:30	13:35	Introduction	Rizwan Hamid - Co-Chair
13:35	13:55	Neurogenic lower urinary tract (LUT) dysfunction – from Neurophysiology via Pathophysiology to Clinics	John Heesakkers
13:55	14:10	How to maintain normal renal function, how to achieve continence / how to manage incontinence with overactive detrusor - Therapeutic strategies in 2016	Thomas Kessler
14:10	14:25	How to maintain normal renal function, how to achieve continence / how to manage incontinence with underactive (acontractile) detrusor – Therapeutic strategies in 2016	Helmut Madersbacher - Co-Chair
14:25	14:45	Diagnostic workup: How informative are basic diagnostics, are urodynamics essential?	Marcio Averbeck
14:45	15:00	Parkinson's disease – case based approach	Ulrich Mehnert
15:00	15:30	Break	None
15:30	15:50	Spinal cord injury - case based approach	Giulio Del Popolo
15:50	16:10	Spina bifida – case based approach	Waleed Altaweel
16:10	16:25	Multiple sclerosis - case based approach	Rizwan Hamid - Co-Chair
16:25	16:30	Summary & Closing Remarks	Helmut Madersbacher - Co-Chair

Aims of course/workshop

The aim of the workshop is to provide participants with a holistic approach for the management of a neuropathic bladder. Information on neurophysiology will be presented. Standard diagnostic approach and the value of the classic urodynamic techniques will be discussed. An overview on the therapeutic strategies in 2016 will be given. After the break the workshop will focus on a disease specific, case based approach in the specific, case based approach in the diagnosis, management and treating potential complications of the most common neuro-urologic conditions. Individual case based studies in a step wise manner involving the audience in understanding the best management in context of different pathology will be discussed

Learning Objectives

After this workshop participants should be able to:

1. To understand pathophysiology of NLUTD and undertake appropriate diagnostic workup
2. Institute treatment plan according to specific diseases
3. Identify and manage urological complications

Learning Outcomes

The participants would be able to understand and investigate neuropathic bladder dysfunction, formulate a management plan. They would be able to tailor treatment according to specific disease pattern and manage complications.

Target Audience

Doctors, nurses, physiotherapists with interest in neuro-urology

Advanced/Basic

Basic

Conditions for learning

A combination of interactive lectures and Q & A session

Suggested Learning before workshop attendance

International Guidelines on management of Neuropathic bladder dysfunction

Suggested Reading

- A UK consensus on management of bladder in MS. Fowler CF, Panicker JN, Drake MJ, et al. J of Neurology, Neurosurg, Psy. 2009;80:470-7
- International Consultation on Incontinence. 2012
- European Association of Urology Guidelines on Neuro-Urology. 2016

Giulio del Popolo

A case of young man who sustained an upper motor neuron type spinal cord injury will be discussed. He is complaining of urinary incontinence and some urinary infections. There are issues surrounding intermittent catheterizations. He can also be intolerant to oral medications.

The discussion will involve use of minimally invasive therapies like BOTOX and manage the long term complications of a high pressure bladder in a young man with associated psychological issues

Take home message – optimal treatment of neuropathic bladder post spinal cord injury in an individualised fashion

Thomas Kessler

How to maintain normal renal function, how to achieve continence / how to manage incontinence with overactive detrusor – Therapeutic strategies in 2016

Neurogenic detrusor overactivity (NDO) is usually observed in patients with a cerebral and/or suprasacral spinal lesion. Patients with suprapontine cerebral lesions usually present with NDO combined with a normal sphincter. The therapeutic concept is to treat NDO (see below). In pontine lesions, detrusor and sphincter may either be overactive or underactive deserving special management. In patients with suprasacral spinal lesions, the bladder and the sphincter are overactive. The therapeutic concept is to treat NDO and to assist or accomplish bladder emptying.

How to manage NDO

- Behavioral treatment
- Antimuscarinics are the pharmacological first line treatment. There are differences in efficacy and especially adverse event profiles of the different antimuscarinics and an individualized pharmacological approach seems warranted. However, there are no clear-cut findings regarding the first choice antimuscarinic drug.
- Non invasive neuromodulation (percutaneous/transcutaneous tibial nerve stimulation, transcutaneous electrical nerve stimulation of the pudendal nerve) may be considered, but further high-level evidence studies are necessary.
- Intradetrusor injections of botulinum neurotoxin type A (BoNTA) are a generally accepted second-line treatment for NDO. OnabotulinumtoxinA (Botox®) is currently the only FDA approved BoNTA for treating NDO.
- Sacral neuromodulation is a well-established second-line therapy for non-neurogenic lower urinary tract dysfunction, i.e. non-obstructive chronic urinary retention, urgency-frequency syndrome, and urgency incontinence. There is evidence indicating that sacral neuromodulation may also be effective and safe for patients with neurogenic lower urinary tract dysfunction but the number of investigated patients is low and there is a lack of randomized, controlled trials.
- Bladder augmentation becomes rarely necessary nowadays because of the aforementioned treatment options.
- Urinary diversion: In the case that all other treatments fail, i.e. as an “ultima ratio”, urinary diversion (usually combined with cystectomy) has to be considered.

How to empty the bladder

- Alpha-blockers are worth trying but the evidence is very limited.
- Intermittent (self-)catheterization (handout Prof. Madersbacher)
- Indwelling transurethral/suprapubic catheter (handout Prof. Madersbacher)
- Sacral neuromodulation: see above.
- Intra-sphincter BoNTA injections are not recommended due to limited effectiveness.
- Sphincterotomy becomes rarely necessary today due to other treatment options.
- Intraurethral stents: comparable with sphincterotomy, but costs, complications and re-interventions are further limiting factors.
- Urinary diversion: see above.

How to manage NDO combined with an underactive sphincter

The therapeutic concept is to treat NDO (see above) and to increase the outlet resistance as follows:

- Pelvic floor muscle exercise may be helpful in patients with incomplete lesions.
- Electrostimulation: High-level evidence studies for neurological patients are lacking, but it may be considered regarding the favorable adverse event profile.
- Duloxetine: Although there are no high-level evidence studies in neurological patients, duloxetine may be successful in mild stress incontinence.
- Bulking agents: are not recommended outside of well-designed clinical trials due to the lack of high-level evidence studies in neurological patients.
- Suburethral slings: are established in women, for men the artificial urinary sphincter is the first choice.
- Artificial urinary sphincter: gold standard in severe stress incontinence.

Ulrich Mehnert

An elderly man suffering from Parkinson's disease is suffering from urinary symptoms. The main complaints are frequency and urgency with nocturia and incontinence. There are some obstructive symptoms present. Additionally, he suffers from urinary infections.

There will be discussions of bladder management in this man in the context of Parkinson's disease with limitations of mobility and cognition and how to optimise the bladder management improve the quality of life in a conservative manner.

Take home message – optimal treatment of urinary symptoms in a patient suffering from Parkinson's disease to achieve a balance between improving urinary symptoms but keeping the broader picture of disease process in mind

Rizwan Hamid

A middle aged female who suffers from Multiple Sclerosis is complaining of intractable storage symptoms including incontinence. The oral medications give bothersome side effects and these issues are affecting her quality of life.

The discussion will involve the use of BOTOX with associated risk of self- catheterization that needs to be balanced with the symptomatic relief from her symptoms.

Take home message – How to balance the potential benefit of a therapy with recognised side effect in a MS patient with bladder symptoms and poor quality of life

Waleed Al Tawleel

A distraught patient who undergoes emergency decompression for cauda equine syndrome is now suffering from urinary symptoms. He complains of difficulty in passing urine, frequency and urinary infections. There are issues with bowel management and erectile dysfunction.

The discussion will involve managing the expectations of a patient developing pelvic floor dysfunction after cauda equina type injury. The issue of self –catheterization and need for management in a holistic manner will be undertaken

Take home message – the complex clinical and psychological issues in a cauda equina injury patient will be discussed. A holistic approach involving multidisciplinary team is required in managing this situation.

Speaker 5