UROGOLD II: Οι σημαντικότερες δημοσιεύσεις της χρονιάς

Λειτουργική Ουρολογία

Νευροουρολογία

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European Association of Urology

Neuro-urology

More Than 15 Years of Experience with Intradetrusor OnabotulinumtoxinA Injections for Treating Refractory Neurogenic Detrusor Overactivity: Lessons to Be Learned

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Table 1 – Patients' characteristics at first intradetrusor onabotulinumtoxinA injection

Total no. of patients	52
Gender (%)	
Women	24 (46)
Men	28 (54)
Cause of NLUTD (%)	
Spinal cord injury	32 (61)
Tetraplegic	9 (17)
Paraplegic	23 (44)
Spina bifida	8 (15)
Multiple sclerosis	7 (14)
Other neurologic disorder	5 (10)
Locomotion (%)	
Ambulatory	16 (31)
Wheelchair user	36 (69)
Type of bladder emptying (%)	
Spontaneous voiding	6 (11)
Intermittent catheterisation	32 (62)
Indwelling catheter	14 (27)

NLUTD = neurogenic lower urinary tract dysfunction.

Table 2 – Neurourologic treatment at latest available evaluation

Treatment	Total (%)	SCI	SB	MS	Other
Intradetrusor BoNT-ONA injections	31 (60)	22	5	1	3
Bladder augmentation ($n = 6$), cystectomy with ileal conduit ($n = 1$), and cystectomy with continent catheterisable reservoir ($n = 1$)	8 (15)	5	1	1	1
Antimuscarinic drugs	5 (10)	3	1	1	–
Neuromodulation	4 (8)	1	1	1	1
Continuous urine drainage by indwelling catheter	4 (8)	1	–	3	–

BoNT-ONA = onabotulinumtoxinA; MS = multiple sclerosis; SB = spina bifida; SCI = spinal cord injury.

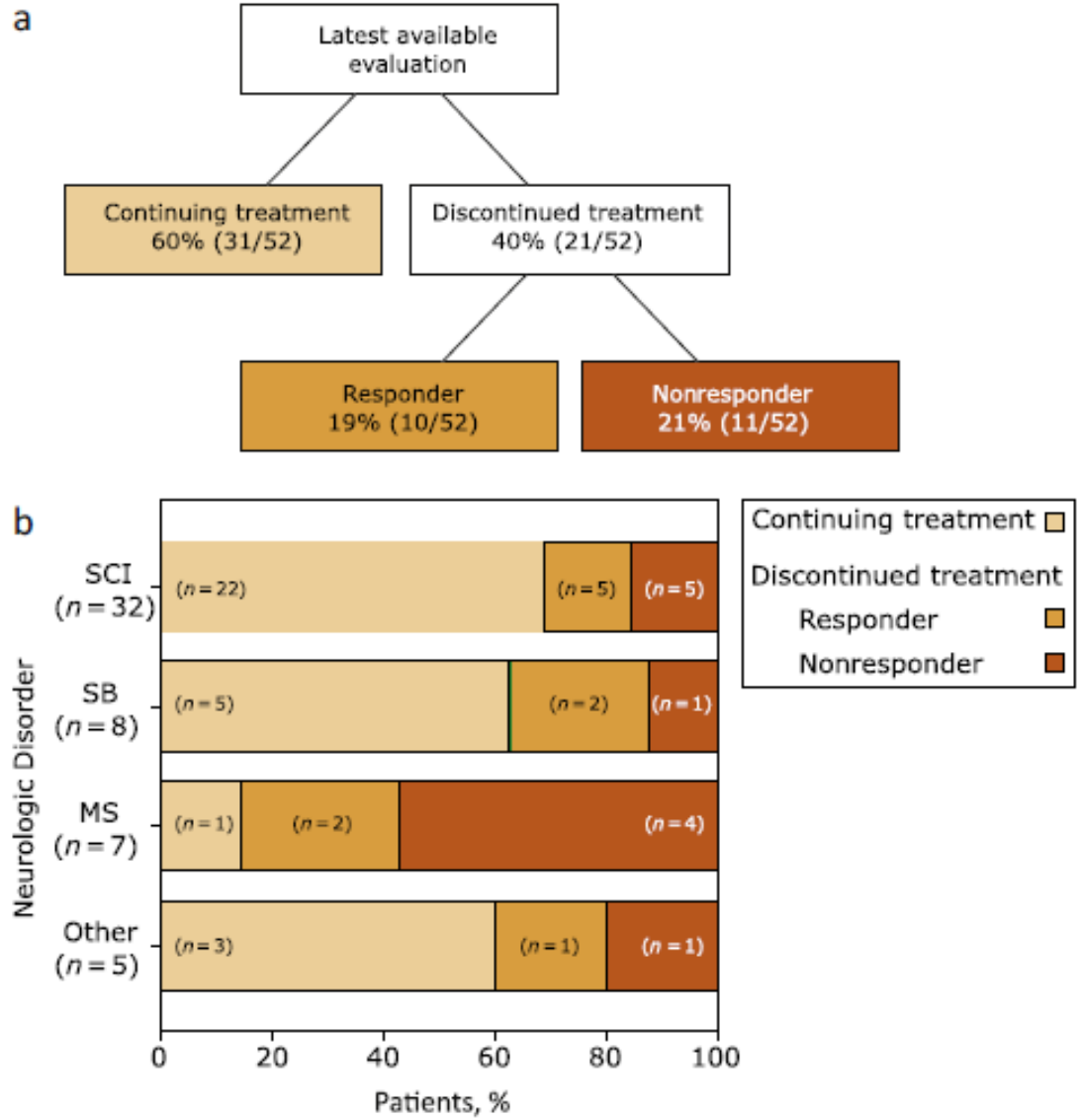

Fig. 1 – (a) Flowchart of intradetrusor onabotulinumtoxinA (BoNT-ONA) treatment at the latest available evaluation. Continuing treatment: Intradetrusor BoNT-ONA injections as current therapy at the latest available evaluation with appropriate clinical (urinary frequency of fewer than eight micturitions in 24 h and reduction in incontinence episodes ≥75%) and urodynamic (maximum detrusor pressure during storage phase <40 cm H_2O and bladder compliance ≥20 ml/cm H_2O) effect. Discontinued treatment: *responder* indicates discontinuation of BoNT-ONA treatment on patient request in favour of other treatments despite appropriate clinical and urodynamic BoNT-ONA effect; *nonresponder* indicates discontinuation of BoNT-ONA treatment due to inappropriate clinical (urinary frequency of eight or more micturitions in 24 h and/or reduction in urinary incontinence episodes <75%) and/or urodynamic (maximum detrusor pressure during storage phase ≥40 cm H_2O and/or bladder compliance <20 ml/cm H_2O) effect. (b) Intradetrusor BoNT-ONA treatment at the latest available evaluation according to the underlying neurologic disorder.
MS = multiple sclerosis; SB = spina bifida; SCI = spinal cord injury.

Table 3 – Reason for discontinuation of intradetrusor onabotulinumtoxinA injections

	Total	SCI	SB	MS	Other
No response	11	5	1	4	1
Patient request*	9	4	2	2	1
Bladder cancer	1	1	–	–	–

MS = multiple sclerosis; SB = spina bifida; SCI = spinal cord injury.
* Five patients preferred antimuscarinic treatment (although less effective and with adverse effects such as dry mouth, constipation, and visual disturbances) because they perceived repeated intradetrusor onabotulinumtoxinA (BoNT-ONA) injections as a relevant burden. Four patients with BoNT-ONA–induced voiding dysfunction switched to neuromodulation therapy not impairing bladder emptying.

Table 4 – Clinical and urodynamic findings before first onabotulinumtoxinA treatment

Clinical/Urodynamic parameter	Patients continuing treatment ($n = 31$)	Patients discontinued treatment ($n = 21$)	p
Urinary frequency/24 h	7 ± 3	8 ± 4	0.38
Incontinence episodes/24 h	2 ± 3	2 ± 2	0.47
MCC, ml	395 ± 120	425 ± 175	0.49
Compliance, ml/cm H_2O	36 ± 28	41 ± 35	0.60
P_{det} maximum storage, cm H_2O	46 ± 30	55 ± 29	0.29
DO (%)	31/31 (100)	21/21 (100)	0.99
Bladder volume at first DO	215 ± 125	205 ± 115	0.78

DO = detrusor overactivity; MCC = maximum cystometric capacity; P_{det} = detrusor pressure.

Table 5 – Patients continuing onabotulinumtoxinA treatment ($n = 31$): clinical and urodynamic findings before first and after last intradetrusor injections

Clinical/urodynamic parameter	Before first BoNT-ONA treatment	After last BoNT-ONA treatment	p
Urinary frequency/24 h	7 ± 3	5 ± 1	<0.001
Incontinence episodes/24 h	2 ± 3	0 ± 1	0.001
MCC, ml	395 ± 120	620 ± 350	0.002
Compliance, ml/cm H_2O	36 ± 28	92 ± 64	0.000
P_{det} maximum storage, cm H_2O	46 ± 30	30 ± 26	0.014
DO (%)	31/31 (100)	22/31 (71)	0.008
Bladder volume at first DO	215 ± 125	360 ± 215	0.021

BoNT-ONA = onabotulinumtoxinA; DO = detrusor overactivity; MCC = maximum cystometric capacity; P_{det} = detrusor pressure.

Conclusions

Although intradetrusor BoNT-ONA injections are a highly effective therapy for NDO, approximately 40% of the patients discontinue treatment over time. Therefore, all prospective neurologic patients should be given this information, and it should be considered in the treatment decision-making process. Meeting patients' expectations is related to increased satisfaction [31,32], and patients' satisfaction is an important indicator of the quality of care[33]. This also underlies the significance of the informed consent procedure before BoNT-ONA treatment.

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European Association of Urology

Guidelines

Summary of European Association of Urology (EAU) Guidelines on Neuro-Urology

Jan Groen [a,*], *Jürgen Pannek* [b], *David Castro Diaz* [c], *Giulio Del Popolo* [d], *Tobias Gross* [e], *Rizwan Hamid* [f], *Gilles Karsenty* [g], *Thomas M. Kessler* [h], *Marc Schneider* [h], *Lisette 't Hoen* [a], *Bertil Blok* [a]

Table 1 – Recommendations for urodynamics and uro-neurophysiology

Recommendations	GR
The recording of a bladder diary is advisable.	A
Noninvasive testing is mandatory before invasive urodynamics is planned.	A
Urodynamic investigation is necessary to detect and specify LUT dysfunction.	A
Same session repeat measurement can be helpful in clinical decision making.	C
Video-urodynamics is the gold standard for invasive urodynamics in neuro-urological patients.	A
A physiological filling rate and body-warm saline should be used.	A
Specific uro-neurophysiological tests are elective procedures.	C

GR = grade of recommendation; LUT = lower urinary tract.

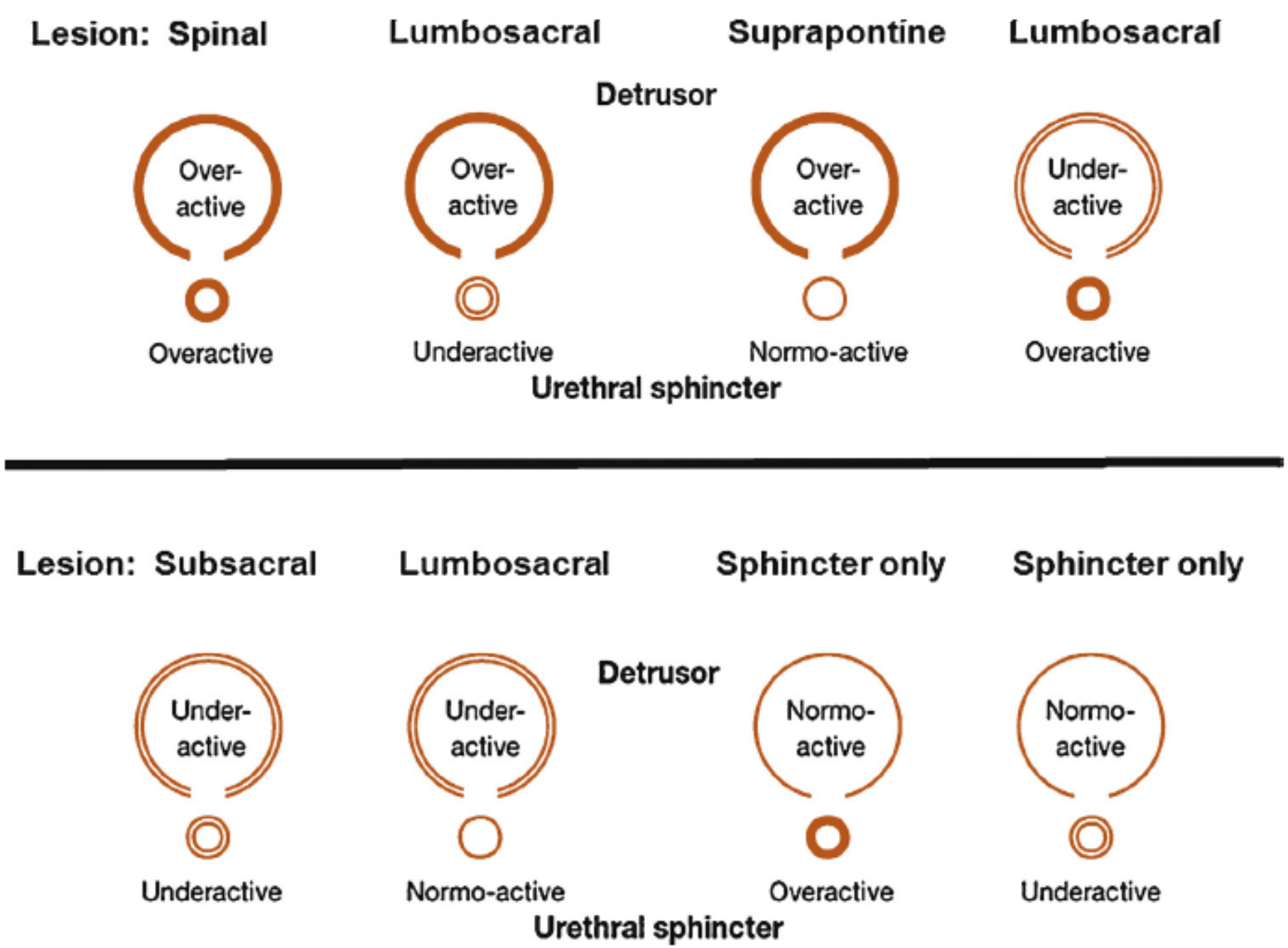

Fig. 1 – Madersbacher classification system [6] showing typical neurological lesions.

Table 2 – Recommendations for treatment

Recommendations	LE	GR
For neurogenic detrusor overactivity, antimuscarinic therapy is the recommended first-line medical treatment.	1a	A
Alternative routes of administration (ie, transdermal or intravesical) of antimuscarinic agents may be used.	2	A
Outcomes for neurogenic detrusor overactivity may be maximized by considering a combination of antimuscarinic agents.	3	B
To decrease bladder outlet resistance, α-blockers could be prescribed.	1b	A
For underactive detrusor, no parasympathicomimetics should be prescribed.	1a	A
In neurogenic stress urinary incontinence, drug treatment should not be prescribed.	4	A
Botulinum toxin injection in the detrusor is the most effective minimally invasive treatment to reduce neurogenic detrusor overactivity.	1a	A
Sphincterotomy is a treatment option for detrusor sphincter dyssynergia.	3	A
Bladder neck incision is effective in a fibrotic bladder neck.	4	B
In order to treat refractory neurogenic detrusor overactivity, bladder augmentation is recommended.	3	A
In female patients with neurogenic stress urinary incontinence who are able to self-catheterize, placement of an autologous urethral sling should be used.	4	B
In male patients with neurogenic stress urinary incontinence, artificial urinary sphincter should be used.	3	A

GR = grades of recommendation; LE = levels of evidence.

Table 3 – Recommendations for the treatment of UTI

Recommendations	LE	GR
Asymptomatic bacteriuria in patients with neuro-urological disorders should not be treated.	4	A
The use of long-term antibiotics in recurrent UTIs should be avoided.	2a	A
In patients with recurrent UTI, treatment of neuro-urological symptoms should be optimized and foreign bodies (eg, stones, indwelling catheters) should be removed from the urinary tract.	3	A
In patients with neuro-urological disorders, UTI prophylaxis must be individualized since there is no optimal prophylactic measure available.	4	C

GR = grades of recommendation; LE = levels of evidence.

Table 4 – Recommendations for the treatment of sexual (dys)function and fertility

Recommendations	LE	GR
In neurogenic ED, oral PDE5Is are the recommended first-line medical treatment.	1b	A
In neurogenic ED, intracavernous injections of vasoactive drugs (alone or in combination) are the recommended second-line medical treatment.	3	A
In neurogenic ED, mechanical devices such as vacuum devices and rings can be effective and may be offered to patients.	3	B
In neurogenic ED, penile prostheses should be reserved for selected patients.	4	B
There is no effective medical therapy for the treatment of neurogenic sexual dysfunction in women.	4	A
In men with SCI, vibrostimulation and transrectal electroejaculation are effective methods of sperm retrieval.	3	B
In men with SCI, MESA, TESE or ICSI may be used after failed vibrostimulation and/or transrectal electroejaculation.	3	B
In men with SCI, especially at or above T6, it is essential to counsel patients at risk and fertility clinics about the potentially life-threatening condition of autonomic dysreflexia.	3	A
In women with a neurological disease, the management of fertility, pregnancy and delivery requires a multidisciplinary approach tailored to individual patient's needs and preferences.	4	A

ED = erectile dysfunction; GR = grades of recommendation; ICSI = Intracytoplasmic sperm injection; LE = levels of evidence; MESA = microsurgical epididymal sperm aspiration; PDE5I = phosphodiesterase type 5 inhibitor; SCI = spinal cord injury; TESE = testicular sperm extraction.

Neurourology and Urodynamics 35:657–665 (2016)

Neurogenic Lower Urinary Tract Dysfunction: Clinical Management Recommendations of the Neurologic Incontinence Committee of the Fifth International Consultation on Incontinence 2013

Marcus John Drake,[1*] Apostolos Apostolidis,[2] Andrea Cocci,[3] Anton Emmanuel,[4] Jerzy B. Gajewski,[5] Simon C.W. Harrison,[6] John P.F.A. Heesakkers,[7] Gary E. Lemack,[8] Helmut Madersbacher,[9] Jalesh N. Panicker,[4] Piotr Radziszewski,[10] Ryuji Sakakibara,[11] and Jean Jacques Wyndaele[12]

TABLE I. Categorization of Neurological Lesions According to Time of Onset, Clinical Course, and CNS Location, With Example Conditions

	Congenital & perinatal lesions	Acquired, stable conditions	Acquired, progressive conditions
Brain and brainstem	Cerebral palsy	Stroke, head injury	Multiple sclerosis,[a] Parkinson's disease, dementia, multiple system atrophy[a]
Suprasacral spinal cord	Hereditary spastic paraparesis, spinal dysraphism[a]	Trauma	Multiple sclerosis,[a] spondylosis with myelopathy
Sacral spinal cord	Spinal dysraphism, sacral agenesis, ano-rectal anomaly	Conus injury	Tumor
Subsacral	Spinal dysraphism, familial dysautonomia	Cauda equina injury, pelvic nerve injury	Tumor, peripheral neuropathy (e.g. diabetic)

[a]Conditions that can arise in more than one region of the CNS.

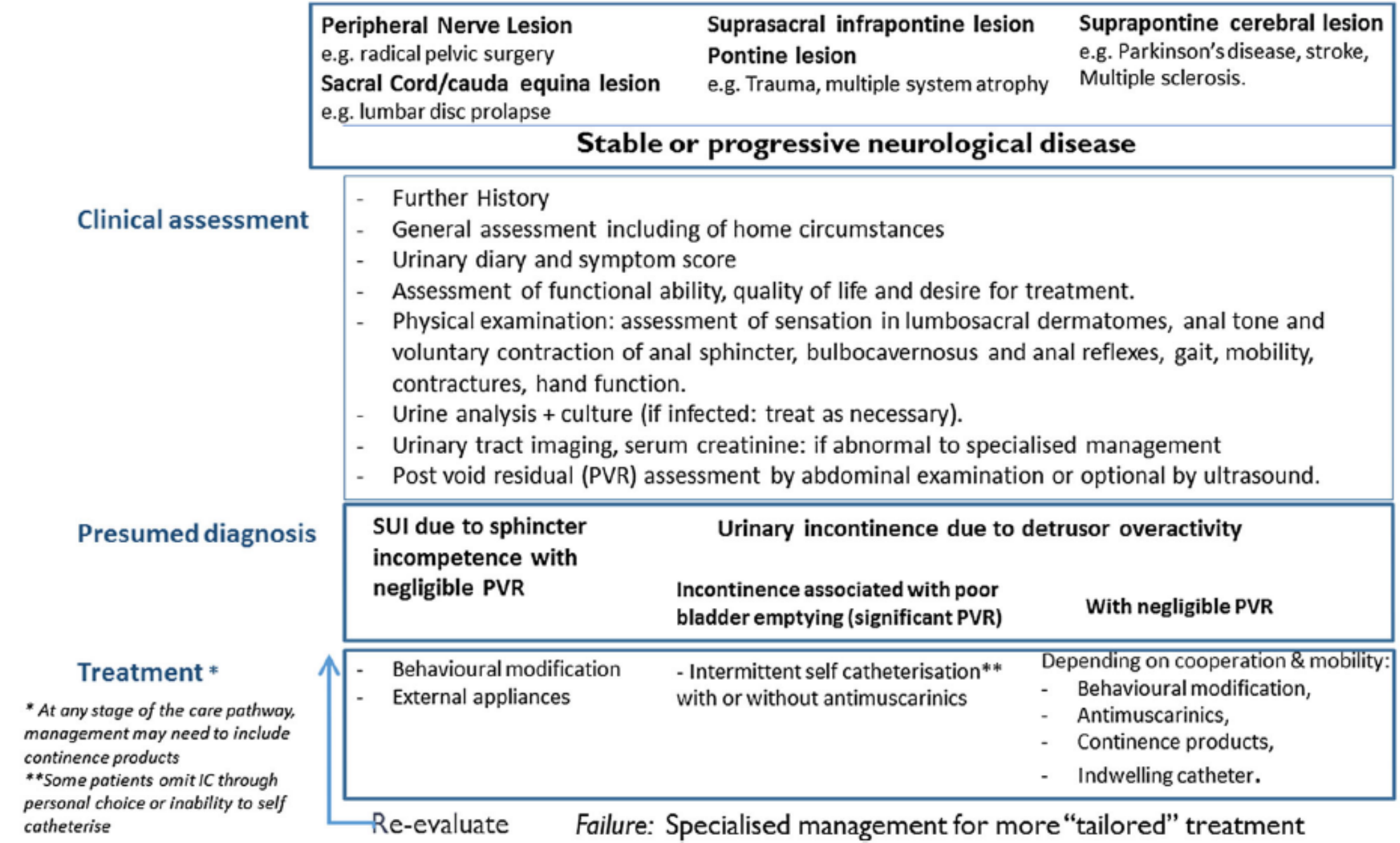

Fig. 1. Initial assessment and therapy of neurogenic lower urinary tract dysfunction.

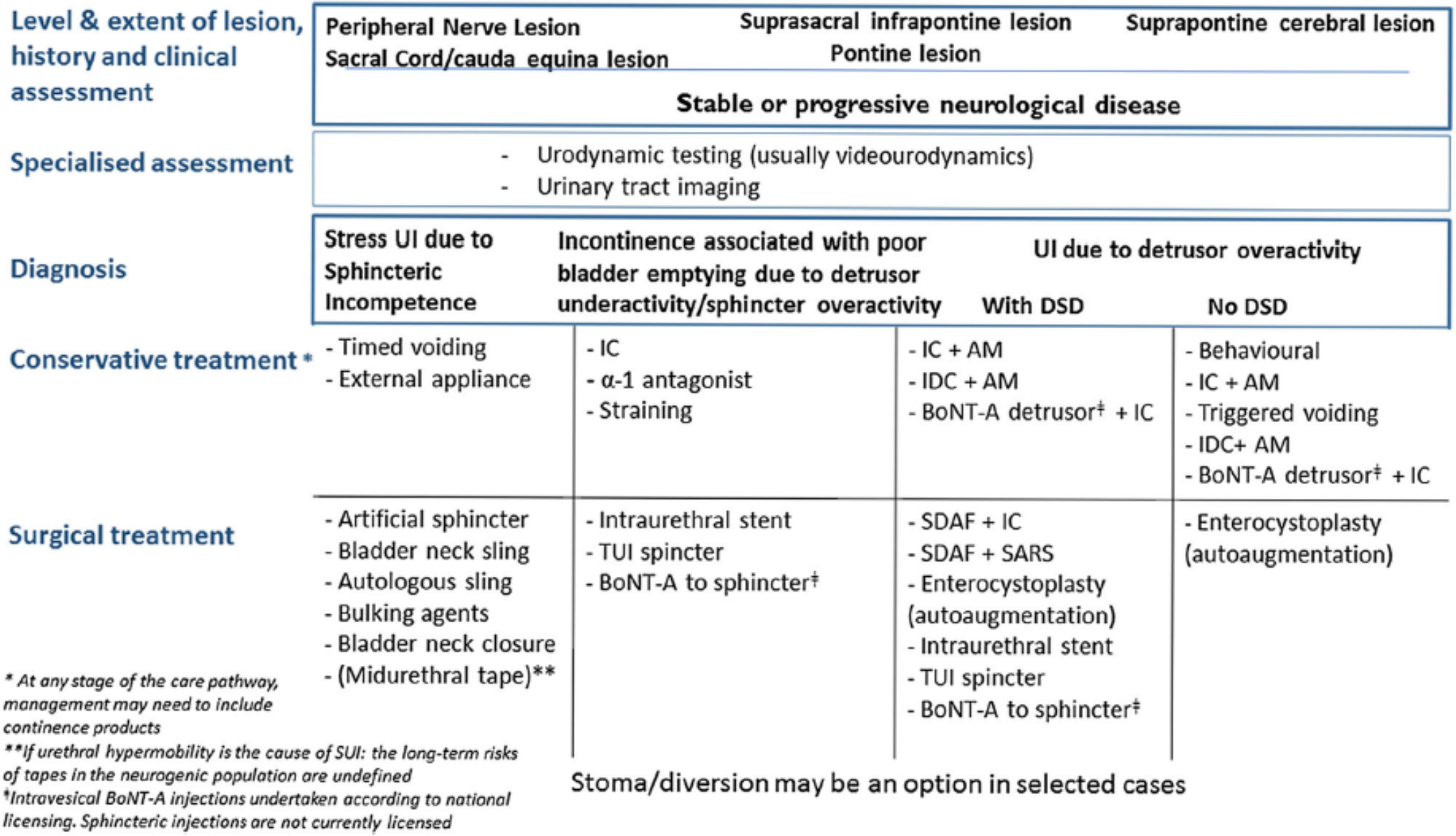

Fig. 2. Specialized assessment and therapy of neurogenic lower urinary tract dysfunction. AM, antimuscarinics; BoNT-A, botulinum neurotoxin-A; DSD, detrusor sphincter dyssynergia; IC, intermittent catheterization; IDC, indwelling catheter; PVR, postvoid residual; SARS, sacral anterior-root stimulator; SDAF, sacral deafferentation; TUI, transurethral incision.

Neurourology and Urodynamics 36:35–36 (2017)

ICS Teaching Module: Artefacts in Urodynamic Pressure Traces (Basic Module)

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Aims: To present the ICS Teaching Module on artefacts in urodynamics pressure traces. **Methods:** Slides from three urodynamics centres were assembled. Descriptions and labels were agreed by the authors and the module presented at the ICS Annual Scientific Meeting in Brazil 2014. **Results:** Ten artefacts that should be recognized while using water-filled urodynamic systems are presented and remedial action described. **Conclusions:** This manuscript serves as scientific background for the slide set made available on the ICS website. By following the guidelines in this teaching module, good quality urodynamics can be more readily achieved. *Neurourol. Urodynam. 36:35–36, 2017.*

Key words: artefacts; pressure measurement; quality

The ten artefacts described in this module are:

- Movement/tube knock
- Patient position change
- Expelled vesical catheter
- Expelled rectal catheter
- Flushed catheter
- Line open to syringe
- Empty bladder (poor response)
- Empty rectal catheter
- Poor cough response
- Poor response to live signal