

Neuro-Urology during the COVID-19 pandemic: Triage and priority of treatments

BACKGROUND

The need to postpone all elective medical activities (consultations and elective surgery) has emerged due to the experiences of some Italian regions during the current coronavirus disease-2019 (COVID-19) pandemic. In fact, these activities may expose not only patients but also health workers to an increased risk of infection. Even though all screening measures are applied, as well as adherence to individual behavioral principles, the risk of contracting an infection by coming to the Hospital remains high.

All emergency procedures including unpostponable oncological treatments were excluded from these limitations, leaving some health care professionals feeling that the particularities of certain disorders and the potential harmful implications of putting them in “standby” had not been fully addressed, which is justified by the unexpected severity of this sanitary crisis.¹⁻³

Indeed, these unprecedented times have put enormous pressure on both our professional and personal lives. With this in mind, we must look after patients with COVID-19 while continuing to provide ongoing care for our existing patients. From our point of view the correct way to manage this situation would be to advocate for a change in perspective, adopting an asymmetrical approach: focusing on our patients' special needs, but never neglecting the major community interest.

PROPOSAL OF TREATMENT MANAGEMENT IN NEURO-UROLOGICAL PATIENTS

In this context, the Neuro-Urology Commission of the Italian Society of Urodynamics with the support of the Italian Continence Foundation is urging a reconsideration of the emerging problems connected with managing neuro-urological patients, and suggests steps to ensure continuous care during this pandemic period.⁴ This paper is mainly based on expert opinions, taking into

consideration local protocols and lack of health care resources. Due to time constraints, a rigorous consensus was not possible, but an endorsement was requested from the International Continence Society board as we undoubtedly believe it will be helpful to the entire community to safeguard both health care professionals and patients.

We have therefore decided:

1. To ascertain procedural steps that could serve as a temporary solution, during the pandemic period, aimed at minimizing complications based on different neuro-urological patterns
2. To define priority and timing for diagnosis and interventional procedures based on the different resources of the centers (Spinal Unit vs Functional Urology Centre) compared with the individual patient risks (type of neurological burden, type of dysfunction, and comorbidities) in the transition period concluding the pandemic crisis, and also once regular activity gradually resumes

To fulfill the abovementioned proposals the following steps, have to be considered:

A great heterogeneity exists within our National Health Systems between the various referral centers for neuro-urological patients: (a) in-person visits have been restricted to nondeferrable out-patients after telephone screening; (b) video or telephone consultations, performed according to local privacy laws, have been undertaken everywhere.⁵ This approach: would avoid sudden interruption in follow-ups, and would have the benefit of offering some psychological support to a population which is under substantial stress; second, it would allow the possibility to identify medical matters that may qualify for urgent management or define a priority list of treatments to be performed once restrictions have been lifted, so as not to waste precious time once “normal activity” resumes.

Investigation procedures must be limited to:

1. Undeferrable/urgent conditions.

TABLE 1 Priority of treatments in neuro-urological patients during and after COVID-19 pandemic

Diagnosis	Procedure	Priority during pandemic	Priority after pandemic	Observations
<i>Asymptomatic obstructive hydronephrosis with conserved renal function</i>	Ureteral stent, nephrostomy	High	High	Considering the local trend of the outbreak, to avoid risks of infection
<i>Chronic urinary retention</i>	Intermittent catheter (IC) training	Low	Any time catheterization teaching is possible	IC training during pandemic could be limited for lack of health care resources. Consider indwelling catheter when IC training cannot be offered
<i>Chronic urinary retention +/- urinary incontinence +/- chronic pelvic pain</i>	Electric stimulation (TENS; IVES; etc), perineal rehabilitation, neuromodulation	Low	Whenever possible	Consider indwelling catheter +/- pain therapy Physiatrist intervention should be suppressed except for urgent need
<i>Neurogenic stress incontinence</i>	Device implantation	Low	No limitations	Social continence can be assured with pads, urethral or external catheters
<i>Neurogenic erectile dysfunction refractory to conservative treatment</i>	Prosthesis implantation	Low	No limitations	
<i>Defective implants or devices</i>	Removal of prosthesis	Low	At whatever time with the correct logistics available	
<i>Erosion from implants or prosthesis without infection</i>	Prosthesis removal	High	High	Evaluate singularly
<i>Infected implants</i>	Prosthesis removal	Urgency/emergency	Urgency/emergency	Infected implants may progress rapidly to systemic infection and emergently treated. Consider antibiotic coverage waiting for COVID-19 swab results if elective surgery is planned
<i>Patient with implanted stage I sacral neuromodulation (SNM)</i>	Explantation SNM stage I or positioning of stage II SNM	High complete SMN of the external connection	No stage I SNM should be performed during pandemic	Second stage should be done only after the pandemic to obviate the need of following short term follow-ups or further complications
<i>Detrusor sphincter dyssynergia</i>	Urethral sphincter Botulinum toxin A injection or sphincterotomy	Low	Intermediate	Differ until end of epidemic pursue IC or when not possible, indwelling catheter

TABLE 1 (Continued)

Diagnosis	Procedure	Priority during pandemic	Priority after pandemic	Observations
Neurogenic detrusor overactivity without prior urodynamics risk factors for the upper urinary tract	Botulinum toxin A detrusor injection	Low	Intermediate	Consider increasing antimuscarinics dosage, adding another antimuscarinic (also intravesical oxybutinin) and/or beta adrenergic
Neurogenic detrusor overactivity with prior urodynamics risk factors for upper urinary tract (eg, vesico urethral reflux) or history of autonomic dysreflexia	Botulinum toxin A detrusor injection	Intermediate	High	In the meantime, consider indwelling catheter or increasing antimuscarinics dosage, adding another antimuscarinic (also intravesical oxybutinin) and/or beta adrenergic. Alpha-blockers can be indicated if there are signs or symptoms of autonomic dysreflexia
Detrusor overactivity with or without reduced refractory compliance	Enterocystoplasty +/- urethral reimplantation	Low	Intermediate	Consider indwelling catheter in the meantime
Bladder stone in neurogenic bladder	Endoscopic removal of stone/cystolithotomy	Intermediate	High	Consider indwelling catheter in the meantime. Patients with possible autonomic dysreflexia crises or high intravesical pressures should be carefully evaluated and planned before

Note: Grade of priority: high \leq 4 wk; intermediate \leq 3 mo; low $>$ 3 mo.

Abbreviations: COVID-19, coronavirus disease-2019; IVES, integrated volitional control electrical stimulation; TENS, transcutaneous electrical nerve stimulation.

2. Selected in-patients where the lack of a proper diagnosis and treatment could delay a patient's recovery and subsequent discharge.

Subsequently, priority criteria should take into consideration the type of admission (in or outpatient) and evaluation (first diagnosis or follow-ups), besides the individual neuro-urological conditions, risk of complications and comorbidities. Meanwhile, noninvasive urodynamic measures such as keeping a bladder diary should be encouraged of all patients via a dedicated institutional email account or other possible methods according to local advisories. If indicated, teleprescription of antimuscarinics or other drugs should be done. Areas where pharmacological treatments cannot be prescribed electronically should be supported by a local urologist or general practitioner. Urological care would continue to be provided to in-patients with neurological issues (eg, within the Spinal Unit) ensuing adequate bladder rehabilitation programs with avoidance of deferrable invasive procedures.

It must be clear that we are acting in an emergency, comparable in some ways to a war context. In this situation the right balance has to be taken into account on a local basis between:

- Urgency of the procedure.
- Risks of contagion.
- Accessibility to anesthesiological assistance as well as to health care units and other postoperative care.
- The lack of resources due to the demands of patients with COVID-19.

The aim of this document is not to serve as a guideline but rather as suggestions to assist practitioners who might be unsure how to prioritize neuro-urological adult patients. The indications of maximum time limit are based on clinical practice and may be lower if the local epidemiological situation permits it. Giving a postepidemic time priority should help practitioners organize access to the operating theater when activity slowly resumes (see Table 1).

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