

Start	End	Topic	Speakers
16:00	16:05	Introduction	Elise De
16:05	16:20	Initial approach – neurology of the bladder, bowel, and reproductive system	Jalesh Panicker
16:20	16:35	Autonomic nerve dysfunction – recognition, causes, and management. Central sensitization.	Charles Argoff
16:35	16:45	Questions	All
16:45	17:00	GU manifestations of autonomic dysfunction – recognition and management.	Elise De
17:00	17:10	Questions	All
17:10	17:25	GI Manifestations of autonomic dysfunction – recognition and management.	Natalia Zarate-Lopez
17:25	17:30	Questions	All

Description

Autonomic nerve dysfunction in the absence of central nervous system dysfunction (large fiber neuropathy) is an emerging concept. For example, two thirds of patients with complex (refractory or multisystem) chronic pelvic pain have been shown to have small fiber neuropathy (SFN).

Involvement of the small-diameter unmyelinated C-fibers and thinly myelinated A-delta (Aδ) fibers that are involved in sensory and autonomic functions can result in a myriad of pelvic visceral and sensory symptoms. The pelvic floor specialist should note that the neurological evaluation is often reported as “normal”, because the clinical examination (eg. deep tendon reflexes), standard neurophysiology tests (nerve conduction studies and EMG), and imaging (MRI) evaluate for conditions that affect the large nerve fibers (e.g. disc protrusion, demyelination).

Pelvic floor providers see a significant number of patients with small fiber neuropathy due to its impact on innervation of the pelvic visceral organs genitourinary organs . Eighty five percent of people with SFN have symptoms from autonomic dysfunction (male erectile dysfunction in 58%, urinary symptoms in 33%, constipation (36%), lightheadedness/palpitations (36%), gastroparesis (6%), and multiple autonomic symptoms (65%). Bladder neck obstruction can be present in as many as 75% of those with SFN, CPP, and lower urinary tract symptoms. CPP is a common presentation as 95% of those with SFN have somatosensory dysfunction (burning 25%, paresthesia 30%, shock-like pain 29%). Often a cause can be identified, some of which are reversible (e.g. diabetes, sarcoidosis, celiac disease, B12 deficiency, and Lyme). Historically many of these individuals have been labeled with psychologically-founded pain due to complexity of the multifactorial presentation.

This workshop will take the audience through different case scenarios involving multisystem pelvic dysfunction (diabetes mellitus, endometriosis, interstitial cystitis) as well as systemic manifestation of autonomic dysfunction (POTS, sweating dysfunction, temperature dysregulation, hearing changes, anxiety, arrhythmias, peripheral neuropathy).

Innervation of the GI tract and pelvic organs will be presented, along with expected findings on neurologic exam specific to large and small fiber neuropathies.

Bladder dysfunction resulting from impaired sympathetic and parasympathetic nerves is seen commonly in urologic and urogynecologic practice. Practitioners are familiar with centrally mediated dysfunction such as spinal cord injury, multiplesclerosis, and peripherally mediated dysfunction caused by pelvic surgery or diabetes. The connection of autonomic bladder dysfunction with SFN beyond diabetes has not been well explored.

Primary bladder neck obstruction (BNO) is a condition in which the bladder neck fails to open normally during the voiding phase of urination, resulting in increased internal urethral sphincter activity or obstruction of urinary flow in the absence of another anatomic obstruction.

The etiology behind BNO is not fully elucidated but underlying neurogenic etiologies in the form of sympathetic nervous system dysfunction have been suggested.

The prevalence of BNO is somewhere between 5% and 11% in young women and 28%–54% in young men with voiding dysfunction. Lower urinary tract symptoms typically associated with BNO are nonspecific, such as frequency, urgency, hesitancy, and incomplete emptying. Without clinical suspicion and special attention to the bladder neck during cystoscopy or video urodynamic testing, it is underdiagnosed and consequently undertreated.

“Hypotonic bladder” or “underactive bladder” refers to the constellation of symptoms derived from urodynamic detrusor underactivity (DUA). Detrusor underactivity is defined by the International Continence Society (ICS) as relevant symptoms and: “low detrusor pressure or short detrusor contraction in combination with a low urine flow rate resulting in prolonged bladder emptying and/or a failure to achieve complete bladder emptying within a normal time span (a high postvoid residual may be present)”.

Symptoms resulting from detrusor underactivity can include reduced or interrupted stream, hesitancy, reduced sensation of filling and sensation of incomplete bladder emptying.

The etiology of this disorder can arise from myotonic deficiency of the detrusor muscle, or it can be neurological (i.e., central or peripheral nerves). The diagnosis is made via urodynamic testing.

Other suspected etiologies such as MTHFR mutation and alternative causes for systemic autonomic dysfunction will be presented.

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Aims of Workshop

This workshop educates on autonomic dysfunction of the bladder, bowel and reproductive tracts. Traditional considerations regarding neurogenic bowel and bladder dysfunction focus on large fiber neuropathies (spinal cord injury, MS, Parkinson's). Autonomic nerve dysfunction may occur in their absence – for example in small fiber neuropathy. ICS members are often the first point of contact for people with autonomic dysfunction due to presenting symptoms of bladder, bowel and sexual dysfunction as well as pelvic and abdominal pain. Understanding autonomic dysfunction through this novel workshop reorients the approach to the seemingly complex patient.

Educational Objectives

Dysautonomia is common within in the practices of many ICS members, but we are not well trained to see it and it represents a significant learning gap.

We aim to address this learning gap with Neurology, Pain Management, Neurogastroenterology, and Neurourology experience with those with autonomic nerve dysfunction. These faculty have extensive experience working and teaching across disciplines.

Recognition of symptom patterns will be taught and tools provided to screen for them.

Delegates will be encouraged to introduce themselves and their specialties and to comment on cases, ask questions. Ample time for interaction will be provided.

Workshop outline will combine cases with didactic lecture, highlighting key clinical points. Emerging methods to assess gastrointestinal dysfunction in patients with autonomic dysfunction will be discussed

Tools for diagnostic workup and treatment will be provided. For example, approach to treating autonomic bladder dysfunction using Botox not only to the bladder but also bladder neck, or a comprehensive list of etiologies of small fiber neuropathy – some of which are curable.

Resources for patient empowerment will also be provided

Learning Objectives

1. Understand causes of autonomic nerve dysfunction
2. Understand how to recognize autonomic nerve dysfunction in your patients
3. How to manage symptoms

Target Audience

Urology, Urogynaecology and Female & Functional Urology, Bowel Dysfunction, Pure and Applied Science, Conservative Management

Advanced/Basic

Intermediate

Suggested Learning before Workshop Attendance

Assessment of gastrointestinal autonomic dysfunction: present and future perspectives. Kornun et al, J Clin Med 2021;10(7):1392

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