Case Report: Multiple Autoimmune Diseases with MS-Related Neurogenic Bladder and Secondary Interstitial Cystitis (IC) Confirmed by Biopsy

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www.ics-eus.org/2025/abstract/ 816

Introduction

Multiple sclerosis (MS) is an autoimmune disease that can affect the central nervous system, leading to a variety of neurological symptoms, including bladder dysfunction. Neurogenic bladder, a common complication in MS, can lead to symptoms such as urinary urgency, frequency, and incontinence. This case report presents a patient with multiple autoimmune diseases, including MS, who developed a neurogenic bladder and secondary interstitial cystitis (IC), with the diagnosis confirmed through cystoscopy and bladder biopsy.

Case Presentation

A 69 -year-old female neurosurgeon with a history of multiple autoimmune diseases, including multiple sclerosis (MS), Hashimoto's thyroiditis, and atrial fibrillation (AFib), presented with a few weeks' history of lower urinary tract symptoms (LUTS). The patient reported recurrent urinary tract infections (UTIs), daily stress incontinence, urinary urgency, and small volume leaks. She also described occasional complete bladder emptying before reaching the bathroom. Her voiding frequency was approximately 10 times during the day and once at night. She denied nocturnal enuresis, polyuria, dysuria, or hematuria. Voiding was described as a good stream with adequate volume and a sense of complete emptying, without hesitancy, post-void dribbling, or double voiding.

The patient also reported a history of severe atrophic vaginitis but denied any other significant gynecological or gastrointestinal symptoms. She had not attempted pelvic floor exercises or anticholinergic medications for her urinary symptoms.

Her medical history was notable for multiple sclerosis (currently not on medication), atrial fibrillation, and glaucoma in the left eye. She had been menopausal since age 45, with a parity of 0+3 and no postmenopausal bleeding (PMB). Her surgical history included two elective ERPCs, a laparotomy with myomectomy, and spine surgery for disc prolapse at the L3-4-5 level. On physical examination, the abdomen was soft, non-tender, and without masses or organomegaly. The pelvic examination revealed severe atrophic vaginitis with no uterine descent or prolapse. The patient had adequate perineal tone, and pelvic floor muscle tone was rated at 2-3 on the Oxford scale.

Urodynamic studies were conducted and confirmed the presence of urinary stress incontinence (USI) and mild bladder overactivity with systolic contractions, which are probable manifestations of her MS-related neurogenic bladder.

Cystoscopy , bladder biopsy and IVI Hyacyst were performed, and the biopsy results were consistent with the clinical diagnosis of interstitial cystitis (IC). Importantly, the biopsy was negative for flat carcinoma in situ (CIS) or invasive malignancy.

The patient's clinical presentation, coupled with diagnostic findings, led to the diagnosis of neurogenic bladder secondary to multiple sclerosis and interstitial cystitis (IC). The bladder biopsy confirmed the presence of IC without evidence of malignancy.

Discussion

Multiple sclerosis is a chronic autoimmune disease that can cause various neurological complications, including neurogenic bladder. Neurogenic bladder in MS often presents with symptoms such as urgency, frequency, and incontinence. This can be complicated by conditions like interstitial cystitis (IC), which can worsen urinary symptoms and lead to significant discomfort. In this case, the bladder biopsy confirmed IC as the secondary condition to the MS-related neurogenic bladder, providing further clarity in the management of the patient's urinary dysfunction.

Interstitial cystitis is a chronic condition that is often difficult to diagnose, as it shares symptoms with other urological disorders, such as recurrent UTIs and overactive bladder. Cystoscopy and biopsy are essential in confirming the diagnosis and ruling out malignancy, as demonstrated in this case.

Conclusion

This case highlights the importance of considering secondary bladder conditions, such as interstitial cystitis, in patients with multiple sclerosis who present with urinary symptoms. Early diagnosis and a comprehensive treatment plan, including both conservative and interventional approaches, are essential in managing complex cases involving neurogenic bladder and IC.