

CLINICAL VIGNETTE

Interstitial Cystitis/Painful Bladder Syndrome

Malena SC Law, MD

Case Report

A 49-year-old non-smoking female presented with complaints of intermittent dysuria and suprapubic pain for 2 months. The patient reported that approximately 2 months ago, she developed bladder pain and dysuria. She was diagnosed with a urinary tract infection after an urgent care evaluation and was treated with ciprofloxacin and pyridium without any resolution in her symptoms. Her bladder pain worsened and was severe enough to require an emergency room visit where a urinalysis was normal and a pelvic ultrasound was performed and found to be unremarkable. She described an intense urge to urinate every 1-2 hours with suprapubic pain escalating if she could not empty her bladder as soon as she felt the urge to void. She denied any hematuria, fevers, chills or flank pain. She was evaluated by a urologist and restarted on antibiotics without any improvement in her pain. She had a CT urogram which was normal and then had an unremarkable cystoscopy and urodynamic study. She had tried ibuprofen and oxycodone for the pain without significant improvement.

Physical exam was only remarkable for suprapubic tenderness. Her pelvic exam revealed no abnormal discharge or erythema and no palpable masses. Her urinalysis was normal and urine bacterial and fungal cultures were negative.

She eventually was diagnosed with interstitial cystitis/painful bladder syndrome (IC/PBS). She was started on pentosan polysulfate sodium (Elmiron®) and began behavioral modifications (including timed voiding and avoidance of trigger foods) and her symptoms have slowly improved. She continues to be “aware of her bladder” but only has painful flares near her menses.

The Society for Urodynamics and Female Urology (SUFU) defines Interstitial Cystitis/Painful Bladder Syndrome (IC/PBS) as: “an unpleasant sensation (pain, pressure, discomfort) perceived to be related to the urinary bladder, associated with lower urinary tract symptoms of more than six weeks duration, in the absence of infection or other identifiable causes”

¹. There have been varied definitions of the syndrome over the past few decades so prevalence data are variable but estimates based on a managed care

population study revealed 197 cases per 100,000 women and 41 cases per 100,000 men². The syndrome is two to three times more common in women than men with no clear variations by ethnicity/race¹. Most cases are diagnosed in the fourth decade with the mean age at diagnosis being 42-45 years old³.

The hallmark symptom of IC/PBS is pain. All IC/PBS patients describe pain whether it is pain associated with bladder filling or bladder emptying or pain in the pelvis. Patients frequently experience urinary frequency, urinary urgency, and nocturia. They often describe a compelling need to void to relieve pain which is contrary to overactive bladder patients who void to avoid incontinence. Some patients may present insidiously with only one or two mild symptoms that progress and others may present with a full-blown symptom complex after a sentinel event (i.e., urinary tract infection, vaginitis, prostatitis, trauma, coccyx injury after a fall, surgery, etc.). Many IC/PBS patients have coexisting pain syndromes including irritable bowel syndrome, dysmenorrhea, endometriosis, vulvodynia, migraine or fibromyalgia.

The character of the symptoms can vary day to day in patients with some having constant, chronic pain on a daily basis and others having flares of symptoms with certain triggers. Symptoms can be exacerbated by various factors including menstrual cycle (luteal phase), increased stress, exercise, sexual activity, prolonged sitting, and diet (i.e., citrus fruits, tomatoes, vitamin C, artificial sweeteners, coffee, tea, carbonated and alcoholic beverages, and spicy foods tended to exacerbate symptoms; while calcium glycerophosphate and sodium bicarbonate tended to improve symptoms)⁴.

In this chronic syndrome, all patients experience a decline in quality of life indicators with disruptions seen in work and home life, depression, chronic fatigue and pain, sleep disturbances, and avoidance of sexual intimacy, etc. Many experienced increased economic burden between lost work productivity and increased health care costs. The mean annual health care costs for patients were twice as high after a diagnosis of IC/PBS compared to age-matched controls⁵.

In 2011, the American Urological Association (AUA) published guidelines for the diagnosis and treatment of Interstitial Cystitis/Painful Bladder Syndrome (IC/PBS). A patient who presents with symptoms raising concern for IC/PBS should have a thorough history and physical exam (including pelvic exam), and urinalysis and urine culture to evaluate and rule out urinary infection, nephrolithiasis, pelvic masses, genitourinary malignancy. Post-void residual should be measured to rule out urinary retention. Cystoscopy should be performed in patients with any smoking history to evaluate for malignancy.

Once a diagnosis of IC/PBS is made, the American Urological Association (AUA) recommends as first-line treatment:

1. Patient Education (re: normal bladder function, what is known about IC/PBS, possible triggers (food triggers, activity triggers, stress, etc.), treatment options and their risks/benefits);
2. General Relaxation and Stress Management;
3. Pain Management (nonsteroidal anti-inflammatories and/or narcotics if necessary), and
4. Self-care and Behavior Modification (i.e., timed voiding protocols).¹

Second-line treatment options include physical therapy, oral medications, and intravesicular medications¹. It is difficult to determine efficacy of treatments as there are very few randomized controlled treatment trials and most trials are retrospective and non-controlled.

Physical therapy done by specially trained individuals and directed at reducing tender trigger points, connective tissue restrictions, and muscular abnormalities of the soft tissues is recommended. Pelvic floor strengthening exercises (i.e., Kegel exercises) specifically are to be avoided as they may exacerbate symptoms¹.

Pentosan polysulfate sodium (Elmiron[®]) is the only oral medication this is FDA-approved for the treatment of IC/PBS. Pentosan polysulfate sodium is a protein that is filtered through the kidneys and appears in the urine. It is thought to reconstitute the deficient glycosaminoglycan layer over the urothelium which is theorized to play a role in the etiology of IC/PBS. Medications used to treat other pain syndromes, including amitriptyline and gabapentin, are also often used in the management of IC/PBS. Antihistamines, including cimetidine and hydroxyzine, are used as well, addressing another theory that mast cells may play a role in IC/PBS.

Intravesicular dimethyl sulfoxide (DMSO), intravesicular heparin, and intravesicular lidocaine have also been used in the management of IC/PBS but no controlled studies of these therapies exist.

Therapies that previously were tried for IC/PBS patients but are no longer recommended include: long term antibiotic use, intravesicular bacillus Calmette-Guerin (BCG), intravesicular Resiniferatoxin, high pressure long duration hydrodistension, and long-term oral glucocorticoids¹.

Interstitial Cystitis/Painful Bladder Syndrome is a chronic pain syndrome that can cause a significant reduction in quality of life. Because there is no consensus on the etiology or pathophysiology of the disorder or on the optimal treatment protocol, it is a syndrome that can be challenging to treat.

REFERENCES

1. **Hanno PM, Burks DA, Clemens JQ, Dmochowski RR, Erickson D, Fitzgerald MP, Forrest JB, Gordon B, Gray M, Mayer RD, Newman D, Nyberg L Jr, Payne CK, Wesselmann U, Faraday MM;** Interstitial Cystitis Guidelines Panel of the American Urological Association Education and Research, Inc. AUA guideline for the diagnosis and treatment of interstitial cystitis/bladder pain syndrome. *J Urol.* 2011 Jun;185(6):2162-70. Epub 2011 Apr 16. Review. PubMed PMID: 21497847.
2. **Clemens JQ, Meenan RT, Rosetti MC, Gao SY, Calhoun EA.** Prevalence and incidence of interstitial cystitis in a managed care population. *J Urol.* 2005 Jan;173(1):98-102; discussion 102. PubMed PMID: 15592041.
3. **Clemens JQ, Joyce GF, Wise M, Payne C.** Interstitial Cystitis and Painful Bladder Syndrome. In: Urologic Diseases in America. US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Litwin MS, Saigal CS (Eds), Washington, DC 2007. p.123.

4. **Friedlander JI, Shorter B, Moldwin RM.** Diet and its role in interstitial cystitis/bladder pain syndrome (IC/BPS) and comorbid conditions. *BJU Int.* 2012 Jun;109(11):1584-91. doi: 10.1111/j.1464-410X.2011.10860.x. Epub 2012 Jan 11. Review. PubMed PMID: 22233286.
5. **Payne CK, Joyce GF, Wise M, Clemens JQ;** Urologic Diseases in America Project. Interstitial cystitis and painful bladder syndrome. *J Urol.* 2007 Jun;177(6):2042-9. PubMed PMID: 17509284.

Submitted on July 12, 2012