

Evaluation of the female with chronic urologic pain

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Introduction

The evaluation of women with chronic urologic pain must be framed within the context of female chronic pelvic pain in general. Chronic pelvic pain in women is defined as persistent, non-cyclic pain perceived to be in structures related to the pelvis and lasting more than six months. It is estimated that chronic pelvic pain affects 15% of women in North America. More than 40% of laparoscopies done in the U.S. are for diagnosis of chronic pelvic pain. Common gynecological causes are shown in Table 1 and include: endometriosis, ovarian cysts, hernias, adhesions, pelvic congestion syndrome, and vulvodynia. Other sources of chronic pelvic pain to be considered are intestinal disorders (irritable bowel, inflammatory bowel, etc.) and musculoskeletal or neurological conditions.

It is estimated that 30% of women with chronic pelvic pain have interstitial cystitis/bladder pain syndrome (IC/BPS). A lesser number have chronic pain localized to the urethra (urethral pain syndrome). Referrals to the urologist for evaluation of chronic urologic pain may come relatively undifferentiated from primary care or from the gynecologist after a negative workup for a gynecological etiology. The first goal in evaluation must be to clarify how specifically the pain is related to the bladder and urethra and whether there is associated bladder function impairment. Initial tools are a thorough history, physical exam, and simple urine screening tests. If this evaluation suggests a primary urologic pain syndrome, then further directed testing is indicated.

Practice tips

Tip 1: Confirm the pain is bladder focused

Amidst a myriad of causes of chronic pelvic pain in women, it is important to look for specific characteristics of pain originating from the bladder. It should be midline in the pelvis. Pain that lateralizes would be more typical for ovarian

or bowel pathology, hernia, musculoskeletal, or neurological causes. Pudendal neuropathy is often unilateral and worse with sitting and defecation. Bladder pain should worsen with bladder filling, which acts as a driver for frequency, and it should be at least partially relieved with voiding. Pain that occurs during voiding (dysuria) is suggestive of vulvar pathology, urethritis, or other urethral pathology. Bladder pain may be exacerbated by dietary triggers and flares may occur premenstrually. Dyspareunia may coexist and bladder pain may potentiate after intercourse. Bladder pain may radiate along the urethra, inner thighs, and to the low back. During vaginal examination, palpation over the bladder should reproduce pain.

Tip 2: Evaluate the entire patient

A complete history is mandatory in evaluating a woman with chronic pelvic pain. The presence of storage and voiding symptoms, hematuria, and incontinence are also important to elicit, along with their severity. Sexual function, bowel patterns, and dyschezia (pain during defecation) must be understood by the urologist.

Multiple causes are possible and there may be other coexisting conditions contributing to overall pain and impact on quality of life. Previous pelvic surgery or radiation can lead to chronic pelvic pain and overactive bladder. Medications and illicit drug use, such as ketamine, may cause non-infectious cystitis (Table 2).

It is well-recognized that other chronic regional pain syndromes (irritable bowel syndrome, fibromyalgia, vulvodynia, endometriosis) are more common in women with IC/BPS. Studies have suggested a phenotypic progression where women with IC/BPS develop further regional pain syndromes over time and, in some, eventual systemic pain syndromes. Inflammatory or autoimmune conditions (inflammatory bowel disease, systemic lupus erythematosus [SLE], Sjogren's) also appear to be over-represented in this population. When these conditions coexist with IC/BPS, a bladder-centric only treatment approach is less likely to be successful and make an overall impact on quality of life. Finally, anxiety, depression, and catastrophizing are all highly prevalent in women with IC/BPS. These conditions must be diagnosed

Table 1. Differential diagnosis of chronic pelvic pain in women (non-urolgic)

Gynecological	<ul style="list-style-type: none"> – Endometriosis – Adenomyosis – Fibroids – Ovarian cystic disease – Ovarian cancer – Pelvic inflammatory disease – Vulvodynia – Pelvic congestion syndrome – Adhesions – Internal hernia
Gastrointestinal	<ul style="list-style-type: none"> – Irritable bowel – Constipation – Inflammatory bowel disease
Muskuloskeletal	<ul style="list-style-type: none"> – Pelvic floor dysfunction – Abdominal or groin trigger points
Neurological	<ul style="list-style-type: none"> – Pudendal nerve – Other sensory nerve entrapment

and managed to enable meaningful improvement in bladder-specific symptoms.

Tip 3: Understand the impact of the symptoms on the patient's quality of life and their treatment goals

Some women who wake to void three times per night may be severely bothered, while others cope well with it. A bladder pain level of 7/10 may be incapacitating for some, while others rating their pain at the same level may be able to distract, stay active, and be fully functional. Symptom scores are useful to outline the severity of individual symptoms and follow response to treatment. For IC/BPS there are five validated symptom scores available: the Interstitial Cystitis Symptom Index (ICSI), the Interstitial Cystitis Problem Index (ICPI), The Wisconsin Interstitial Cystitis scale (UW-IC scale), the Pain Urgency Frequency score (PUF score, and the Bladder Pain/IC Symptom Score (BPIC-SS). The Canadian Urological Association (CUA) guidelines recommend using the PUF score or the BPIC-SS. However, it is also essential to understand how the symptoms are impacting the woman's activities, such as her ability to work, exercise, and be sexually active. Initial treatments should target primary symptoms and situational triggers.

Tip 4: Test to rule out reversible pathology and support the diagnosis

When chronic pain of urologic cause is suspected in a woman, initial basic tests are indicated, followed by more focused tests based on individual symptoms. For IC/BPS, the most common urologic chronic pelvic pain syndrome in women, the CUA guidelines suggest: urinalysis and culture, frequency/volume charts, symptom scores, and cystoscopy for all patients. Abdominal and pelvic ultrasonography is commonly done to rule out other adjacent pathology. An

Table 2. Differential diagnosis of chronic urologic pain in women

<ul style="list-style-type: none"> – Interstitial cystitis/bladder pain syndrome – Infectious cystitis/urethritis (typical and atypical) – Non-infectious cystitis (radiation, drugs [ketamine, anti-inflammatories, cyclophosphamide]) – Bladder cancer – Urethral pain syndrome – Urethral diverticulum

intravesical anesthetic bladder challenge or hydrodistension are recognized as optional and may be useful in some scenarios to help support a diagnosis. Potassium sensitivity testing, urodynamics, and bladder biopsy are not recommended for most patients.

If sterile pyuria is identified with symptoms, testing for atypical infections, such as ureaplasma or mycoplasma, is advisable. There continues to be controversy regarding the role of these organisms, which are common commensals, in causation of chronic urologic pain in women. Urethral swab polymerase chain reaction (PCR) may be the most reliable test.

When pain is urethrally based and a urethral diverticulum is suspected, magnetic resonance imaging or focused ultrasonography are generally diagnostic.

Tip 5: Don't hesitate to involve a team with complementary expertise for evaluation and management. Develop a relationship with your team

While in the ideal world, there would be specialists cross-trained in gynecology, gastroenterology, urology, pain management, etc., this is unlikely to occur within our current training system. When the urologist evaluates a woman with chronic pelvic pain syndrome and feels that it is not urologic in nature, or when coexisting symptoms in other organ systems are identified, it is advisable to involve other specialists with unique clinical expertise. The chronic pelvic pain team for urologic pain syndromes may require input from gynecology, gastroenterology, physiotherapy, pain management, psychiatry or psychology, sex therapy, and rheumatology. Women need to establish long-term care for their chronic condition with a consistent specialist(s). All too often they "bounce" around between multiple specialists over years. This may reflect a lack of comfort by specialists in managing chronic urologic pain, but it may also represent a lack of education or understanding of patients as to the chronic nature of their condition. Many women, unfortunately, have not understood that the goals of treatment are to control symptoms and minimize impact on quality of life rather than cure them altogether. As a result, there is an ongoing passive healthcare seeking behaviour, rather than an active, interactive path to management.

Tip 6: Use your cystoscopy as a time for patient education regarding causes of pain and goals of control rather than cure

Pelvic ultrasound and cystoscopy are important for the urologist and patient to confirm that there is no reversible pathology being undiagnosed. It is also important to diagnose the 10–20% of women with classical IC by identifying Hunner lesions, a condition associated with specific therapy. These erythematous lesions can be easily seen on office cystoscopy and usually do not have to be confirmed by hydrostatic bladder dilation under general anesthetic (caused by traumatic rupture of the lesion with bleeding) unless a biopsy is necessary and cannot be accomplished under local anesthesia. The process of cystoscopy with vaginal examination (including reproducing pain and identifying triggers within the pelvic floor or lower abdomen, screening for vulvodynia, prolapse, and atrophy) is one of the most important educational interactions with the patient. All too often, we are under time pressure when doing cystoscopy. A two-minute cystoscopy misses the opportunity to reinforce critical management concepts to the patient. She should be shown what her bladder looks like with reinforcement, that there is no sign of inflammation, cancer, or visible abnormality. This rationalizes the fact that there is no surgery that can cure her symptoms. It also underscores that the nervous system may be perpetuating pain and this is why options that target nerve pain are commonly used. Her sensory capacity should be measured and it should be explained whether this is normal or not, perhaps suggesting behavioural therapy. If there are other pain trigger points, such as within the pelvic floor muscles, this needs to be expanded upon with the rationale for physiotherapy. An alkalized lidocaine challenge test may be performed at the conclusion of the cystoscopy if desired. This can support the bladder as the pain source and give insight into therapeutic intervention.

The majority of cystoscopies for women with urologic pain syndromes will be normal. The importance is the patient education that follows from the negative cystoscopy.

Summary

For the most part, urologists do not enjoy evaluating and managing women with chronic urologic pain syndromes. To a large extent, this is because the cause is not well-understood and we do not have cures. As stressed above, the evaluation must be comprehensive and patient education is paramount. These aspects are key, but imply an inherent need for extra time spent by the urologist. Unfortunately, this is in conflict with the challenges of our overburdened healthcare system. Currently, most core urology training does not adequately prepare us to manage women with chronic urologic pain. Until the point where the model of care delivery for chronic pain changes in Canada, urologists will continue to be the primary contact for women. We must understand the very significant impact that chronic urologic pain has on these women and endeavor to do our best to meet their needs.

Competing interests: Dr. Carr has been an advisor and speaker for Allergan, Astellas, Ferring, and Pfizer; and has participated in clinical trials for Allergan, Astellas, Aquinox, and Cook MyoSite.

This paper has been peer reviewed.

Recommended reading

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