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Patient information: Treatment of interstitial cystitis/bladder pain syndrome (Beyond the Basics)

INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME OVERVIEW

Interstitial cystitis/bladder pain syndrome (IC/BPS) is a disorder with symptoms of mild to severe bladder pain and an urgent and/or frequent need to urinate. Treatment of IC/BPS often depends upon a clinician's preferences and experience in treating the disorder rather than upon scientific studies because the cause of this condition is not clear.

A number of treatments are available for IC/BPS, many of which are effective for at least some patients. Most patients with IC/BPS need to try more than one treatment, sometimes in combination, to find the one(s) that provides the greatest relief [1].

This topic review discusses the treatment of IC/BPS. A separate topic review discusses the symptoms and diagnosis of IC/BPS. (See "Patient information: Diagnosis of interstitial cystitis/bladder pain syndrome (Beyond the Basics)".)

AVOIDING PAINFUL BLADDER FLARES

Many people with interstitial cystitis/bladder pain syndrome (IC/BPS) have periods when symptoms are not bothersome that alternate with periods when symptoms are bothersome or even severe (called flares). It is not always clear why flares develop. However, the following triggers may worsen symptoms in some people:

- Certain conditions, such as bladder infections or gastrointestinal problems
- Certain activities, such as sex and prolonged sitting
- Foods and beverages, including spicy foods, alcohol and coffee

Aggravating conditions — Conditions such as bladder infections and vaginal infections can worsen IC/BPS symptoms and should be evaluated and treated promptly. Because symptoms of these other conditions are often similar to those of IC/BPS, most patients should see a healthcare provider to confirm their diagnosis, rather than simply self-treating based upon symptoms. (See "Patient information: Vaginal yeast infection (Beyond the Basics)" and "Patient information: Urinary tract infections in adolescents and adults (Beyond the Basics)".)

Other disorders that cause pain should also be treated since pain in other areas may increase bladder sensitivity. These disorders include inflammatory bowel disease (Crohn's disease, ulcerative colitis, diverticulitis), irritable bowel syndrome, painful menstrual periods, or endometriosis. More than one healthcare provider or specialist is often needed for people who have multiple medical conditions. (See "Patient information: Crohn disease (Beyond the Basics)"

and "Patient information: Ulcerative colitis (Beyond the Basics)" and "Patient information: Irritable bowel syndrome (Beyond the Basics)" and "Patient information: Endometriosis (Beyond the Basics)".)

Activities — In some people, exercise or recreational activities (eg, riding a bicycle), sexual activity, or certain body positions (eg, prolonged sitting) can worsen bladder symptoms. Other activities, such as yoga, Pilates, walking, or working at a standing desk may be less bothersome.

Foods and beverages — If you are able to identify foods or drinks that aggravate bladder pain or urinary urgency or frequency, it is reasonable to avoid these items during a symptom flare. However, it is not clear that these items should be avoided at other times. Some practitioners strongly recommend a highly restrictive "interstitial cystitis diet" [2], although its benefit has never been studied.

COPING WITH CHRONIC PAIN

Interstitial cystitis/bladder pain syndrome (IC/BPS) is not a psychological disorder, but the symptoms can be worsened by stress, anxiety, depression, and other psychological factors. In addition, living with pain can cause difficulties in relationships, at work or school, and with general day to day living. Psychosocial support can be helpful in dealing with these issues.

Depression is common in people with chronic pain, and can interfere with the success of any treatment regimen. Therefore, evaluation and treatment of depression is recommended, if needed. (See "Patient information: Depression in adults (Beyond the Basics)".)

There are several types of psychosocial support:

- Psychotherapy involves meeting with a psychologist, psychiatrist, or social worker to discuss emotional responses to living with chronic pain, treatment successes or failures, and/or personal relationships.
- Group psychotherapy allows people to compare their experiences with IC/BPS, overcome the tendency to withdraw and become isolated in pain, and support one another's attempts at more effective management.
- National support groups are also available, including the Interstitial Cystitis Association (www.ichelp.org) and the Interstitial Cystitis Network (www.ic-network.com).

Online or local support groups that deal with chronic pain may also be helpful, such as the American Chronic Pain Society (www.theacpa.org) and the American Academy of Pain Management (www.aapainmanage.org/links/Links.php).

- Relaxation techniques can relieve musculoskeletal tension, and may include meditation, progressive muscle relaxation, self-hypnosis, or biofeedback.

BEHAVIORAL THERAPY FOR BLADDER PAIN

Behavioral therapies are treatments that can improve bothersome symptoms through changes in behavior. For people with interstitial cystitis/bladder pain syndrome (IC/BPS), one of the more

bothersome symptoms is the need to frequently urinate. Behavioral therapies for urinary frequency work to slowly increase the time interval between voids, which increases the amount of urine the bladder can comfortably hold; this is called timed voiding.

A typical timed voiding protocol involves learning to urinate "by the clock" rather than voiding when there is an urge. This is used throughout the day, but is not used while sleeping.

As an example, if you currently void every 30 minutes, you will first try to urinate only once every 45 minutes during the daytime, whether you feel the need to urinate or not. You should not urinate more frequently than every 45 minutes, if possible. This voiding goal is continued for a full week or until you are comfortable with this interval.

If you are comfortable voiding every 45 minutes, you can increase your time interval by 15 to 30 minutes every week. In this example, you would urinate every 60 minutes for the second week, every 90 minutes for the third week, every 2 hours for the fourth week, and every 2.5 hours for the fifth week.

Timed voiding is inexpensive and has no side effects. In one small study of patients with interstitial cystitis, timed voiding significantly reduced symptoms of IC.

PHYSICAL THERAPY FOR PAINFUL BLADDER

Many men and women with interstitial cystitis/bladder pain syndrome (IC/BPS) have tight and tender muscles and connective tissue in the pelvis, lower abdomen, thighs, groin, and buttocks. Tight muscles and connective tissue can be diagnosed during a physical examination.

Pelvic floor physical therapy (PT) may be recommended to decrease tightness in these muscles. PT can decrease bladder or pelvic pain as well as urinary urgency and frequency. This type of PT is quite different from physical therapy intended to treat a knee injury or back pain, which usually works to increase muscle strength. With pelvic floor PT, you lie flat as the physical therapist works on your body to manually "release" the tightness, tender points, trigger points, and restricted movement of the connective tissues and muscles. This includes the muscles and tissues of the vagina or rectum, abdomen, hips, thighs, and lower back. Physical therapists who perform this type of PT must be specially trained in pelvic soft tissue manipulation and rehabilitation.

Several small studies have demonstrated the benefit of PT for tight and tender pelvic muscles associated with painful bladder syndrome/interstitial cystitis. One study reported that 70 percent of interstitial cystitis patients who were treated with manual physical therapy to the pelvic floor tissues for 12 to 15 visits experienced moderate to marked improvement [3].

Pelvic floor PT is usually performed for one hour once per week for at least 12 weeks. You will also be given stretching exercises to perform at home. Most people begin to see improvement after six to eight sessions. If you are not able to tolerate PT due to pain, a local anesthetic can be injected into the painful muscles before PT to reduce pain and allow the therapist to work more effectively.

ORAL MEDICATIONS FOR BLADDER PAIN

Pentosan polysulfate sodium — Pentosan polysulfate sodium (PPS; Elmiron) is an oral medication that was developed to repair the lining of the bladder in people with IC/BPS. Studies have shown that this medication is effective in reducing symptoms in some patients with IC/BPS, although it rarely causes the symptoms to go away completely. It can take three to six months of treatment before a benefit is observed. Side effects are usually mild, and include hair loss, gastrointestinal symptoms, and increased liver function tests.

Amitriptyline — Amitriptyline (Elavil) is an antidepressant that is commonly used to treat people with chronic pain problems. When used to treat pain, the dose of amitriptyline is typically much lower than that used for treating depression. It is believed that amitriptyline reduces pain perception when used in low doses, but the exact mechanism of its benefit is unknown. In the United States, amitriptyline is not approved for the treatment of pain caused by IC/BPS, although it is safe and effective for the treatment of other pain conditions.

Common side effects of amitriptyline are fatigue, dry mouth, weight gain, and a decrease in blood pressure after sitting or standing up. Amitriptyline is generally started at a low dose (5 to 10 mg) and increased gradually. This medicine can cause drowsiness and is usually taken at bedtime. The pain relief benefit may not be seen for three or more weeks.

Other medications — Oral antihistamines such as hydroxyzine (Atarax, Vistaril) have been used to treat IC/BPS, with variable results. The typical dose is 25 to 50 mg at bedtime. This medication can cause drowsiness. Oral pain medications (such as narcotics and antiinflammatory medications) are also utilized, but should be prescribed by a caregiver who has expertise in chronic pain management.

BLADDER INSTILLATIONS

Dimethylsulfoxide (DMSO) — DMSO is a liquid medication that has been approved by the US Food and Drug Administration to treat interstitial cystitis/bladder pain syndrome (IC/BPS). DMSO is put into the bladder through a temporary catheter, and is held in place for approximately 20 minutes, if possible. These treatments are often given weekly, for six to eight weeks or longer. DMSO can temporarily cause worsened bladder pain, and it is not effective in all patients. It has been used for many years, and is considered to be very safe, with no known long-term side effects.

Other bladder instillations — Some healthcare providers recommend a combination of medications, which are instilled into the bladder with a catheter, to reduce symptoms of pain. This can be done in a clinician's office, or you can learn to self-administer the treatment at home.

The treatment may be used as a single "rescue" treatment when symptoms are severe, or as a regularly scheduled treatment (eg, three times per week for a period of weeks). The medications are in a liquid form and are a small amount (about 15 mL or 0.5 ounces). You hold the liquid in the bladder for as long as possible, and then urinate normally.

The combination of medications may include lidocaine, heparin, and sodium bicarbonate. It is believed that this combination helps to repair the bladder lining and decrease nerve sensitivity in the bladder.

In one small study, approximately 80 percent of patients had decreased pain for at least four hours after one treatment with heparin, sodium bicarbonate, and lidocaine [4]. In addition, some patients experience reduced pain for days or weeks after bladder installations.

ELECTRICAL STIMULATION FOR PAINFUL BLADDER

If other treatments for interstitial cystitis/bladder pain syndrome (IC/BPS) fail to improve pain or cannot be tolerated, some clinicians will consider performing a surgical treatment called sacral nerve stimulation. This involves placing a small wire under the skin just above the tailbone. This wire sends a mild electrical pulse to nerves in the area; this pulse is thought to interrupt signals from the brain that trigger pain, urgency, and frequency in people with IC/BPS. Most patients can feel the electrical pulse, although it is not painful and usually becomes less noticeable over time.

The treatment is done in two stages. During the first stage, a wire is placed next to the nerve in the low back, then tunneled out of the skin and connected to a small battery (about the size of a pager) that is worn on the waist. The wires are taped securely to the skin. The first-stage procedure can be performed in a doctor's office or as a same-day surgery in the operating room. If your symptoms improve from the stimulation (over a period of days to one week), a permanent battery is attached to the wire, and the battery and wire are then surgically implanted under the skin of the upper buttock (figure 1). If your symptoms do not improve, the wires and device are removed. This second-stage procedure is performed as same-day surgery in the operating room.

Small trials of sacral nerve stimulation show that many people with IC/BPS improve significantly after the procedure [5]. However, the surgical procedure and device (called Interstim™) are expensive. Interstim™ is not approved by the US Food and Drug Administration for treatment of pain caused by IC/BPS, although it is approved for treatment of other bladder problems (eg, urinary urgency-frequency, overactive bladder).

Risks of the procedure include the need for a subsequent surgery to reposition or remove the wire or pulse generator, infection, bleeding, and pain. Anyone who is considering sacral nerve stimulation should discuss the risks and benefits with a physician who is experienced and knowledgeable about all available treatments for IC/BPS.

EXPERIMENTAL THERAPIES

Since no treatment is very effective for patients with interstitial cystitis/bladder pain syndrome (IC/BPS), researchers continue to develop and test new therapies. While the possibility of new, more effective treatments is exciting, these new treatments may cause dangerous side effects in some patients. IC/BPS patients who are considering experimental treatments should be sure to understand the possible risks involved.

SURGERY

Major surgery (such as removal of the bladder) may be performed to treat severe interstitial cystitis/bladder pain syndrome (IC/BPS), which has not responded to other therapies. Even with experienced surgeons, these surgeries may be associated with severe, life-threatening complications. Most patients with IC/BPS are not good candidates for major surgery. Furthermore, it is not always guaranteed that these surgeries will relieve IC/BPS symptoms.

WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

Patient information: Bladder pain syndrome (interstitial cystitis) (The Basics)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

Patient information: Diagnosis of interstitial cystitis/bladder pain syndrome (Beyond the Basics)
Patient information: Vaginal yeast infection (Beyond the Basics)
Patient information: Urinary tract infections in adolescents and adults (Beyond the Basics)
Patient information: Crohn disease (Beyond the Basics)
Patient information: Ulcerative colitis (Beyond the Basics)
Patient information: Irritable bowel syndrome (Beyond the Basics)
Patient information: Endometriosis (Beyond the Basics)
Patient information: Depression in adults (Beyond the Basics)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

Causes of chronic pelvic pain in women
Pathogenesis, clinical features, and diagnosis of interstitial cystitis/bladder pain syndrome

Management of interstitial cystitis/bladder pain syndrome

The following organizations also provide reliable health information [3,4]:

- National Library of Medicine

(www.nlm.nih.gov/medlineplus/healthtopics.html)

- National Institute of Diabetes and Digestive and Kidney Diseases

(http://kidney.niddk.nih.gov/kudiseases/pubs/interstitialcystitis/)

- United States Department of Health and Human Services

(womenshealth.gov/publications/our-publications/fact-sheet/interstitial-cystitis.cfm)

- Interstitial Cystitis Association

(www.ichelp.org)

- Interstitial Cystitis Network

(www.ic-network.com)

- European Society for the Study of Interstitial Cystitis

(www.essic.eu)

- International Painful Bladder Foundation

www.painful-bladder.org/index.html

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