INTERSTITIAL CYSTITIS (IC) OR PAINFUL BLADDER SYNDROME

Interstitial Cystitis or Painful bladder syndrome is a condition which causes chronic or recurrent pain in the bladder and in the pelvic region due to damaged bladder lining or urothelium.
An initial bladder infection may predispose to symptoms of IC by damaging bladder walls (Glucosaminoglycan- GAG layer) causing subsequent leakage causing symptoms of pain, inflammation and urinary symptoms as described below. It is more common in women than in men. If severe it can profoundly affect quality of life, causing anxiety and depression.

Several aetiological theories have been considered including autoimmune causes, inflammatory (mast cell) causes, neurologic, allergic, psychological (stress related) and genetic causes -it can sometimes affect siblings and or parent and child in the same family. The condition may be associated with other conditions such as Irritable Bowel Syndrome, Fibromyalgia, Chronic Fatigue Syndrome and Anxiety disorder. Research also indicates that it may be a bladder manifestation of underlying inflammatory or autoimmune conditions such as Systemic Lupus Erythematosus and Sjogren's syndrome. A link to traumatic injury to the bladder has been proposed.

The diagnosis of IC or PBS is one of exclusion which is used to describe painful urinary symptoms which cannot be attributed to other causes of bladder/pelvic pain. E.g. infection or urinary bladder stones.
The bladder wall is irritated and may become scarred or stiff with pin point bleeding and or ulcers found on the bladder wall on histological examination. (Hunner's ulcers)

SYMPTOMS:

Symptoms of IC or PBS (which are similar to bacterial cystitis) are as follows:

- Mild discomfort to tenderness and severe pain in the bladder and pelvic region
- Urgency of micturition
- Urinary hesitancy/slow flow
- Painful micturition/dysuria
- Frequency of micturition- sometimes up to 60 times a day in severe cases. Nocturia
- Any combination of the above.

The intensity of pain varies from patient to patient and the pain may change in intensity as the bladder fill up or as it empties. In women, the bladder pain or other symptoms may get worse during menstruation or sexual intercourse. The symptoms may not always be attributed to bladder size and many patients are found to have normal bladder capacity when examined under anaesthesia or during urodynamic studies.

DIAGNOSIS:

Diagnosis is based on history of symptoms and exclusion of other causes of cystitis- e.g. infection or stones. Urine tests reveal no bacteriuria and there is usually no response to treatment with antibiotics.

Differential diagnoses include:

- Urinary tract infections/cystitis
- Overactive bladder
- Urethritis
- Urethral syndrome
- Bladder stones
- Bladder cancer
- Chronic prostatitis/epididymitis in men
- Endometriosis/ fibroids causing pressure on bladder in women
- Vulvodynia

INVESTIGATIONS:

Investigations to confirm diagnosis and exclude other causes:

- Urinalysis
- Urine culture
- Bladder cystoscopy
- Urodynamic studies
- Examination and distension of bladder under anaesthesia
- Biopsy of bladder wall and urethra

TREATMENT/MANAGEMENT:
There is no cure for this condition and therefore treatment is symptomatic and aimed at relieving symptoms.

CONSERVATIVE METHODS OF TREATMENT:

1. Diet and lifestyle modification and avoidance of precipitating factors e.g. elimination and or addition of dietary foods. E.g. avoidance of spicy foods, caffeine, chocolate, citrus foods/ soda drinks and cessation of smoking
2. Bladder training techniques- voiding at regular intervals.
3. Exercise and stress management.
4. Oral medication.
    a. Regular analgesics.
    b. Pentosan Polysulfate sodium (Elmiron). Onset of improvement is slow and takes months.
    c. Tricyclic antidepressants can reduce pain, decreases frequency and nocturnal micturition.
    d. Cimetidine

INTERVENTIONAL METHODS OF TREATMENT:

1. Bladder distension. Some patients report an improvement of symptoms after distension of bladder under anaesthesia as part of diagnostic investigations as stated above. This procedure is thought to improve bladder capacity and interrupt pain signals in the nerves within the bladder.
2. Bladder instillation or bladder washout out followed by bladder emptying after 10-15 mins- done by regular catheterisation with the following:
    a. Dimethyl Sulfoxide (DMSO), iAluRil solution, Heparin or Lidocaine. Procedure carried out 6-8 weekly. Patients who are willing and able may self catheterise after few weeks. This procedure works by lining the bladder wall and reducing inflammation and relaxing bladder wall muscle whilst blocking pain signals from bladder wall nerves.
3. Neuromodulation techniques via sacral or pudendal nerve, using TENS machines
4. Botulinum toxin injections
5. Surgery is usually reserved for extreme cases after careful consideration. Surgical options include resection and or burning of bladder ulcers, bladder augmentation to increase the size of the bladder, cystectomy and re routing of the urethra +- stoma, creating a new bladder. Phantom pain may occur after cystectomy

DR M JIBODU
Speciality Doctor
NHSBT