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Review Article

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Interstitial Cystitis: Diagnostic Challenges and Treatment

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One of the top listed urological problem wrongly diagnosed and treated is bladder pain syndrome (BPS)or interstitial cystitis(IC) . Most of us diagnose it as repeat bladder infections may have taken antibiotics over and over again with little or no relief. It is mistakenly treated also as over active bladder. Interstitial cystitis is diagnosed clinically on the basis of high suspicion of a clinician. There are multiple definitions of interstitial cystitis in national and international guidelines, the international continent society (ICS) prefers the term "painful bladder syndrome" defined as the complaint of suprapubic pain related to bladder filling accompanied by increased frequency in absence of proven urinary infection or other obvious pathology[1]. The society (ICS) reserves the diagnosis of interstitial cystitis for patients with typical cystoscopic and histological features. This definition miss about one third of the patients primarily because it confines the pain to a suprapubic location only in bladder filling[2]. Recent survey based studies found IC/ BPS prevalent in 1.9 - 4.2% of adult men[3] and 2.7 - 6.5% of adult women[4]. Early in 20th century Guy Hunner reported on women with a history of suprapubic pain ,frequency ,nocturia and urgency lasting an average of 17 years. He drew attention to the disease and the red, bleeding areas he described on the bladder came to be called Hunner ulcers. But in next half century urologist would look for ulcers and failed to make the diagnosis in their absence. In 1949 Hand first noted discrete submucal patechial hemorrhage turnmed as glomerulations which is considered as an important feature of IC. He portrayed three grades of the disease, 69% of patient has grade 1 disease and only 13% has grade 3 i.e small capacity scarred bladder.

The etiology of IC / BPS is unknown but various causes are proposed. This include deficiency of glycosaminoglycan (GAG) layer over bladder mucosa in 40% cases, increased must cell in the bladder wall in 40% cases and in 20% cases combined causes lead to bladder wall inflammation by urine stimulation, viral infection and some autoimmune disorder.

International Consultation on Incontinence 2009 described the diagnostic criterias of bladder pain syndrome. It includes 1) History: urinary tract infection ,pelvic surgery, relation to bladder filling and emptying, pelvic irradiation, auto immune disease etc. 2) Physical examination: spinal deformity ,hernia ,hip movement, vaginal examination and rectal examination. 3) Laboratory testing: urinalysis , urine culture and urine cytology in risk groups. 4) Symptom evaluation: voiding diary , O'Leary -Sant symptom and problem index, visual analog scale for pain. 5) other evaluations are optional i.e urodynamic study ,cystoscopy ,bladder biopsy, potassium chloride test, ultrasonography. Japanese urological association recommend urine cytology, symptom scores, quality of life scores, frequency- volume chart, residual urine measurement, prostate specific antigen, cystoscopy and hydrodistention for accurate diagnosis and treatment design.

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) describes the presence of

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any one of the following excludes a diagnosis of IC: bladder capacity more than 350 ml, absence of an intense urge to void with bladder filling to 150 ml of water during cystometry, phasic involuntary bladder construction on cystometry, duration of symptoms less than 9 months ,absence of nocturia, symptoms relieved by anti microbials or other symptomatic drugs, frequency less than 8 times per day while awake, bacterial cystitis or prostatitis within 3 months, urinary stones, active genital herpes, genito-urinary cancer, urethral diverticulum, Cyclophosphamide or any chemical cystitis, radiation cystitis, tuberculous cystitis, bladder tumors, vaginitis and younger than 18 years.

After diagnosis ,designing the treatment appears as an another challenge .However, treatment can be divided into conservative therapies, diet ,oral therapies , intravesical therapies, neuro modulation and surgical therapies.

Conservative therapies include watchful waiting, therapeutic trial with an antibiotic, pelvic floor relaxation exercise, stress reduction ,effort to maintain a normal lifestyle[5].

Elaborate dietary restrictions are unsuported by any literature but many patients do find their symptoms are adversely affected by specific foods and do well to avoid them[6].These include caffeine ,alcohol ,artificial sweeteners ,hot peppers and acidifying beverages[7].

Oral therapies include a long list of drugs, among which Amitriptyline and other anti depressants contribute significantly. They have Central and peripheral anticholinergic actions and block reuptake of neurotransmitters in presynaptic nerve ending. Antihistamins, both H1 and H2 receptors antagonist are reported as BPS pain reliever in some patients in the United Kingdom. Sodium Pentosan Polysulfate, a recommended drug of FDA is widely used now a days. It contributes in the healing process of GAG layer of bladder epithelium. A 3 -to 6 - month treatment at the dose of 100 mg three times daily is found worthy to offer a sustainable symptomatic improvement. Immuno modulator drugs such as Cyclosporine, Azathioprine, Myicophenolate and Adalimumab reduce symptoms but not used widely due to their high toxicity. NSAIDs can we used as temporary pertinent pain medicine in BPS/ IC.

Intravesical therapies are the mainstay of the treatment of BPS/IC. Dimethyl Sulfoxide, Sodium Pentosan Polysulfate, Silver Nitrate ,Clorpactin, Hyaluronic acid, Chondroitin sulfate and Botulinum toxin are the intravesical drugs. They are practically administered in combination with other adjuvent drugs .There are number of Cocktail composition proposed by different authorities and researchers. One such composition is 50 ml solution of Heparin (25000-40000 unit), Hydrocortisone 200 mg, 8.4% Sodium bicarbonate 4 ml, Lidocaine 8ml[8],that has to be administered intravesically twice weekly for 6 to 12 weeks. Many studies show satisfactory and sustainable remission of symptoms using this combination. In an ongoing study in our country this Cocktail composition was used in 70 patients of BPS/ IC. In 95% cases satisfactory symptomatic relief and subsidence of glomerulations were observed. Intravesical administration of exogenous GAGs (Hyluronic acid, Chondroitin sulfate), Doxorubicin, BCG, Cisplatin, intra detrusor Botulinum toxin are found having positive response.

Neuro modulation is becoming popular nowadays in treating various chronic pain including BPS/ IC.

Surgery is the last option where other modalities fail and bladder becomes thimbled. It includes cauterization of ulcer, hydrodistention under anesthesia and bladder augmentation.

Prevalence study on BPS shows wide variation in different countries and regions of the world . In our region we don't have available data of incidence of BPS . But all focused practitioners must notice that huge number of patients receive consultation in hospital OPD and their private chambers. It is such a urological problem that seriously hampers quality of life by lowering self esteem ,sexual function and overall cognitive function of the brain without reducing longevity. Thus the clinicians special attention is warranted to diagnose and treat the BPS patients of the community.

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