



A CASE SERIES ON BLADDER PAIN SYNDROME (BPS) ADDRESSED BY MODIFIED DRUG COMBINATION DURING COVID 19 PANDEMIC.

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ABSTRACT

Interstitial cystitis/bladder pain syndrome (IC/BPS) is a symptom complex characterized by persistent and frequent pain in the suprapubic area along with urgency, frequency, discomfort, or pressure, this is a case series of three patients with presentation of symptoms peculiar to BPS with its identification and management. The intent is to highlight the effectiveness of a modified combination of already existing approved cocktails to treat BPS / IC. The drug combination was administered intravesically as 6 cycles with one week gap in between. The improvements were later assessed using ICIQ-OAB and WHOQOL-BREF questionnaire.

KEYWORDS

intravesical instillation, bladder pain syndrome

INTRODUCTION:

Interstitial cystitis/bladder pain syndrome (IC/BPS) is a heterogeneous condition encompassing persistent and frequent troublesome pain in the suprapubic area which is relieved by bladder emptying and is associated with frequency and urgency. Intravesical instillation of the medical cocktail is a cornerstone in the treatment of BPS. Here, we present case series of three patients treated with intravesical instillation using drug combination from approved cocktails like Whitmore and Bade comprising 10ml 2% lidocaine, 25ml 8.4% sodium bicarbonate, 80mg Gentamicin, 4mg Dexamethasone, and 100ml Saline (Amrita Cocktail) as an office procedure during this testing COVID time.

Case History:

Case-1

A hypertensive 62-year female presented with complaints of urgency, painful haematuria, and difficulty in voiding for 2 months. Urine microscopy, blood investigation and imaging were within normal limits. The patient was assessed using the International Consultation on Incontinence Questionnaire for Overactive Bladder (ICIQ-OAB) questionnaire. Malignant cells were absent in urine cytology. Cystoscopy showed multiple petechial haemorrhagic spots all over the bladder mucosa with two bullous lesions seen near the dome. A cold cup biopsy from the lesion showed absence of invasive malignancy. As she had profound bladder storage symptoms, she was treated as a case of IC. Intravesical instillation of Amrita Cocktail was given once daily and retained in the bladder for 20 minutes. 6 doses were given with a one-week gap between each dose. The patient was then assessed with the ICIQ - OAB questionnaire and the condition improved drastically. There was no recurrence of symptoms during subsequent half yearly follow up.

Case-2

69-year-old male with a came with obstructive Lower Urinary Tract (LUT) symptoms and bladder pain for 6 months. He later developed acute urinary retention and a Foley catheter was placed. He had a successful trial of void without catheter after starting alpha blockers. He presented again with persistent LUT symptoms along with bladder pain. The urine culture was sterile. He underwent transurethral resection of the prostate (TURP) and the histopathology came as BPH (Benign Prostatic Hyperplasia). Intraoperatively, cystoscopy showed two bladder mucosal lesions in the dome and in the posterior wall. Biopsy from these lesions showed granulation tissue. Even though his flow rate improved his pain persisted. He was assessed with the ICIQ - OAB questionnaire and was started on Amrita Cocktail for 6 cycles and an improvement in symptoms was noted during further follow-up using the questionnaire.

Case-3

31-year-old female presented with complaints of bladder pain, associated with urgency and incontinence. Assessment with a bladder diary showed a functional voiding capacity of 100 ml. Routine blood and urine investigations were within normal limits. Imaging with an

intravenous pyelogram showed no significant abnormalities. The urine culture was sterile. The Cystoscopic evaluation showed glomerulation and petechial haemorrhages. Biopsy showed lymphocytic infiltration with scattered mast cells, indicating intestinal cystitis. She was started on Amrita Cocktail. There was significant pain reduction and follow-up cystoscopy showed a reduction in ulcers and haemorrhagic glomerulation with functional voiding capacity increased to 300ml.

DISCUSSION:

Interstitial cystitis is a symptom complex characterized by urgency, frequency, pain, discomfort, or pressure, which is relieved by bladder emptying, in the absence of any other diseases. Being diagnosis of exclusion, the tests include a clinical history, physical examinations, and urinalysis. The recommended ones are symptom scores, QoL scores, bladder diary, uroflowmetry, urine culture and cytology, blood tests including prostate-specific antigen, cystoscopy, and ultrasonography. Pelvic imaging tests, urodynamic studies, bladder biopsy, and hydrodistension are optional (1). The American Urological Association (AUA) guidelines propose numerous treatment alternatives for IC/BPS, namely conservative therapy, oral therapy, intravesical therapy and surgery (2). For the intravesical instillation, various "Cocktails" are available. For instance, Whitmore, Payne, Welk and Teichman, Bade (3), which has been considered as an accepted treatment regimen for BPS as it provides a greater drug concentration in the bladder, reduces the systemic side effects as well as oral medication-induced drug-drug interactions and directly repairs the urothelium defect (4). Multiple agents, either as single or in combination, can be instilled into the bladder for the treatment of BPS (3) (table 1). Different centres have developed their own combination of agents for intravesical instillation. At our centre, we used an easy to prepare and administer drug mixture of Dexamethasone, Gentamicin, Sodium bicarbonate, Lidocaine in saline solution taking into consideration the evidences for clinical efficacy obtained from approved cocktails like Whitmore and Bade by Interstitial Cystitis Association Medical Advisory Board. Heparin from Whitmore cocktail is eliminated because of its unavailability in the remote areas. Hydrocortisone was substituted by clinically proven more potent Dexamethasone and 0.5 % Marcaine replaced with 2% Lidocaine as in the Bade cocktail. Lidocaine is used as a local anaesthetic and blocks the sensory nerve fibres in the bladder. In addition, it exerts an inhibitory effect on histamine release from activated mast cells (5). Lidocaine being a weak base, alkalization with sodium bicarbonate is required for buffering the acidic urine to enhance bladder tissue penetration (6). Gentamicin was added for prophylactic antibacterial activity. Dexamethasone imparts an anti-inflammatory response. The severity of LUT symptoms and improvement in Quality of Life (QoL) before and after this installation were assessed using ICIQ-OAB and WHOQOL-BREF questionnaires respectively (table 2). The patients responded well and found appreciable symptom relief and improvement from just one or two instillations. They were instructed to continue this intravesical instillation at home, monthly for the next 6 months.

Table 1: Commonly used intravesical cocktails for IC/BPS.

SI no:	Cocktail	Ingredients	Quantity
1.	Whitmore	Heparin	10000 units/mL–2mL
		Hydrocortisone	125 mg
		Gentamicin	80mg/2mL–2mL
		8.4% Sodium Bicarbonate	50mL
		0.5% Marcaine	50 mL
2.	Payne	Dimethyl sulfoxide	50 mL
		Hydrocortisone 0.5%	100 mg
		Bupivacaine	10 mL
		Sodium Bicarbonate (Optional to add heparin)	5 mL
3.	Welk and Teichman	2% Lidocaine	8 mL
		8.4% Sodium Bicarbonate	4 mL
		Heparin	20,000 IU
4.	Bade	Pentosan polysulfate sodium	300mg 10mL
		2% Lidocaine	
		4.2% Sodium Bicarbonate	10mL

CONCLUSION

Intravesical instillation therapy has been found useful in the management of IC/BPS for over a few decades. On this basis, we introduced an affordable combination that is endowed to be effective and unchallenging to execute in a primary or secondary care facility or even at home with proper training, making it an efficacious home instillation agent, especially during this COVID pandemic. A significant improvement in the QoL of patients is evident. Being inexpensive, comprising commonly available substitutes, and devoid of obvious side-effects makes it an alternative to treatment with other agents in the case of IC.

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