

PATIENT FACTORS AND RESPONSE TO BLADDER HYDRODISTENTION IN INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME ARE PREDICTIVE OF SUCCESS OF FOURTH LEVEL THERAPY

Hypothesis / aims of study

Reported outcomes of hydrodistention for interstitial cystitis/painful bladder syndrome (IC/PBS) patients have varying response rates making it difficult to standardize its clinical utility. We aim to better delineate patient characteristics involved in the symptomatic response to bladder hydrodistention and in subsequent therapy modalities. We hypothesize that patients that move on to third line therapy according to the American Urological Association's (AUA) guidelines give us valuable information as to which 4th line therapy they would ultimately benefit from in the long term, if necessary.

Study design, materials and methods

This was an IRB exempt retrospective review based on our practice pattern of allowing hydrodistention data to dictate subsequent care in IC/PBS patients. Between March 2008 and March 2016, 77 patients underwent bladder hydrodistention at our institution as third line therapy according to the AUA guidelines, as indicated. If present, Hunner's ulcers were fulgurated accordingly, and injected with triamcinolone in selected cases. A retrospective chart review was performed. All procedures were done in the operating room under anesthesia with bladder filling pressure of 60-80 cm H₂O. Patients were assessed at routine follow up visits.

Results

Median follow up was 190 days (range, 0-2717). Of the 64 patients for which we had follow up, 41 (64%) had improvement in symptoms and 23 (36%) did not. Ulceration was present on cystoscopy in 20 (26%). Of responders, 16 (39%) had ulcers and 25 did not. Of non-responders, two (9%) had ulcers and 21 did not ($p < 0.01$). Responders had lower mean anesthetic bladder capacity ($496.0\text{ml} \pm 235.4$) versus non-responders ($747.4\text{ml} \pm 276.05$) ($p = 0.001$). There was no difference in responders and non-responders in bladder capacity ($p = 0.41$) or involuntary detrusor contractions ($p = 0.80$) on urodynamics. Twenty-five patients proceeded to fourth (19 intradetrusor botulinum toxin A (BTX-A), nine neuromodulation) and sixth-line (three cystectomies) therapies. In the BTX-A group, 11 (69%) had improvement of symptoms with BTX-A. Ulceration was present in 63.6% of those who improved compared to 20% of those who did not ($p = 0.28$). Average anesthetic capacity was 387mL for those who improved compared to 540mL for those who did not ($p = 0.24$). All 9 patients who had neuromodulation had improvement of symptoms but this was not sustained in everyone. The average anesthetic capacity for this group was 703mL, and none had ulceration on cystoscopy.

Interpretation of results

Patients with lower anesthetic bladder capacity as well as patients who have ulceration on cystoscopy may be more likely to have relief of symptoms with hydrodistention alone. When considering moving on to 4th line therapy, we have identified that patients with smaller bladder capacity and ulcerations are naturally likely to benefit from BTX-A, as this appears to be more of a bladder focused disease process in this group. Those with larger anesthetic capacity and no ulcerations are more likely to benefit from neuromodulation as their bladders are essentially morphologically normal, therefore no additional treatment to the bladder proper is likely to deliver any additional benefit. The net result is that by this selective approach of determining the next step on bladder capacity an appearance, we were able to achieve a high success rate overall in this difficult to treat population.

Concluding message

In our practice, hydrodistention is used as both a therapeutic treatment and diagnostic provocation in IC/PBS patients to assist in deciding appropriate further treatment options with great success in the series presented in this very difficult patient population.

Disclosures

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