

4. Crescenze IM, Tucky B, Li J, Moore C, Shoskes DA. Efficacy, side effects, and monitoring of oral cyclosporine in interstitial cystitis-bladder pain syndrome. *Urology*. 2017;107:49–54.
5. Forrest JB, Payne CK, Erickson DR. Cyclosporine A for refractory interstitial cystitis/bladder pain syndrome: experience of 3 tertiary centers. *J Urol*. 2012;188:1186–1191.
6. Hanno PM, Burks DA, Clemens JQ, et al. AUA guideline for the diagnosis and treatment of interstitial cystitis/bladder pain syndrome. *J Urol*. 2011;185:2162–2170.
7. Braunstein R, Shapiro E, Kaye J, Moldwin R. The role of cystoscopy in the diagnosis of Hunner's ulcer disease. *J Urol*. 2008;180:1383–1386.
8. Barry MJ, Fowler FJ, O'Leary MP, et al. The American Urological Association symptom index for benign prostatic hyperplasia. The Measurement Committee of the American Urological Association. *J Urol*. 1992;148:1549–1557. discussion 1564.
9. Hillelsohn JH, Rais-Bahrami S, Friedlander JI, et al. Fulguration for Hunner ulcers: long-term clinical outcomes. *J Urol*. 2012;188:2238–2241.
10. Jhang JF, Hsu YH, Kuo HC. Characteristics and electrocauterization of Hunner's lesions associated with bladder pain syndrome. *Urol Sci*. 2013;24:51–55.
11. Chennamsetty A, Khourdaji I, Goike J, Killinger KA, Girdler B, Peters KM. Electrosurgical management of Hunner ulcers in a referral center's interstitial cystitis population. *Urology*. 2015;85:74–78.
12. Shanberg AM, Baghdassarian R, Tansey LA. Treatment of interstitial cystitis with the neodymium-YAG laser. *J Urol*. 1985;134:885–888.
13. Rofeim O, Hom D, Freid RM, Moldwin RM. Use of the neodymium: YAG laser for interstitial cystitis: a prospective study. *J Urol*. 2001;166:134–136.
14. Peeker R, Aldenborg F, Fall M. Complete transurethral resection of ulcers in classic interstitial cystitis. *Int Urogynecol J Pelvic Floor Dysfunct*. 2000;11:290–295.
15. Funaro MG, King AN, Stern JNH, Moldwin RM, Bahlani S. Endoscopic injection of low dose triamcinolone: a simple, minimally invasive, and effective therapy for interstitial cystitis with hunner lesions. *Urology*. 2018;118:25–29.
16. Cox M, Klutke JJ, Klutke CG. 39th Annual Meeting of the International Continence Society San Francisco, USA 29 September–3 October, 2009. *Neurourol Urodyn*. 2009;28:567–935.
17. Mateu L, Izquierdo L, Franco A, Costa M, Lawrentschuk N, Alcaraz A. Pain relief after triamcinolone infiltration in patients with bladder pain syndrome with Hunner's ulcers. *Int Urogynecol J*. 2017;28:1027–1031.
18. Rittenberg L, Morrissey D, El-Khawand D, Whitmore K. Kenalog Injection into Hunner's Lesions as a treatment for interstitial cystitis/bladder pain syndrome. *Curr Urol*. 2016;10:154–156.
19. Sairanen J, Forsell T, Ruutu M. Long-term outcome of patients with interstitial cystitis treated with low dose cyclosporine A. *J Urol*. 2004;171:2138–2141.
20. Lotenfoe RR, Christie J, Parsons A, Burkett P, Helal M, Lockhart JL. Absence of neuropathic pelvic pain and favorable psychological profile in the surgical selection of patients with disabling interstitial cystitis. *J Urol*. 1995;154:2039–2042.

EDITORIAL COMMENT

Interstitial Cystitis/Bladder Pain Syndrome (IC/BPS) is a heterogeneous condition best treated by multimodal therapy driven by clinical phenotyping. An established clinically relevant subtype are patients with Hunner's Lesions (HL) which are visible during cystoscopy. Not only does finding HL establish the bladder as a likely pain driver, it also opens additional therapies including fulguration, direct injection of steroids, and a higher rate of response to cyclosporine.

In this retrospective study, the authors describe their outcomes in Interstitial Cystitis/Bladder Pain Syndrome patients

who had HL and were treated with fulguration, triamcinolone injection, or cyclosporine while continuing their other baseline therapies. Improvement with bladder directed therapies was high but retreatment was often required. What lessons can we draw from this experience? First that delay in diagnosis of the HL was 2 years. Current AUA guidelines have cystoscopy at a third line therapy once conservative treatments have failed. The authors and I disagree with this stance. It does not make sense to deprive patients with HL of highly effective therapies which could and should be provided up front, especially that 46% of the patients were requiring chronic narcotics. The second lesson is that HL directed therapies are simple to perform, effective, and should not be confined to academic centers of excellence. Finally, although cyclosporine is firmly established in the guidelines as a fifth line therapy it can be effective and bladder preserving, especially in the HL population. While many Urologists may be reluctant to use it due to its side effect profile it can be safely given at this dose with a minimum of patient monitoring.

Daniel Shoskes, The Center for Men's Health, The Novick Center for Clinical and Translational Research, Glickman Urological and Kidney Institute, The Cleveland Clinic, Cleveland, OH

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AUTHOR REPLY

The editorial comment provides an excellent summary of the major take away points we hoped to portray in this retrospective review. Specifically, in our practice patients with IC/PBS and Hunner's lesions often experience delay to lesion targeted therapy which is most beneficial for them. This delay occurs at multiple management points along the IC/PBS management pathway. Initially, it happens at the time of diagnosis as AUA guidelines do not recommend cystoscopy until patients have failed multiple conservative treatments and thus patients with Hunner's lesions are not identified until much later. Another delay occurs after cystoscopy is done, pathology is found to be benign, and no further lesion targeted treatments are offered. Finally, we demonstrate that $\frac{3}{4}$ of the patients will need repeated treatments for their lesions and should be offered this when clinical symptoms recur or worsen.

This work demonstrates our long-term experience and safety of lesion targeted treatment with direct triamcinolone injection and its use alongside with cyclosporine. Over 80% can expect overall improvement with lesion targeted therapy and side effect profile is low. As more evidence accumulates on the efficacy of lesion targeted treatment for patients with Hunner's lesions, a modification in the AUA guidelines may be warranted to address management of this distinct phenotype of IC/BPS as noted by the editorial comment.

Iryna M. Crescenze, Female Pelvic Medicine and Reconstructive Surgery Fellow, Urology, University of Michigan, Ann Arbor, MI

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