

IS END STAGE BLADDER THE END STAGE OF INTERSTITIAL CYSTITIS?

Hypothesis / aims of study

Persistent small capacity, markedly inflamed, friable, painful bladders that are refractory to treatment have been termed end stage bladder (ESB). The aim of this study is to 1) determine whether patients with EBS evolved from those with painful bladder syndrome (PBS) or interstitial cystitis (IC) 2) determine the underlying causes and 3) assess treatment outcomes.

Study design, materials and methods

This is a retrospective observational study of consecutive patients with a diagnosis of ESB at a single urologic practice. An electronic medical record data based was searched for patients with a diagnosis ESB between 1993 – 2009. Inclusion criteria for ESB included all of the following: 1) symptoms of painful bladder syndrome refractory to treatment for at least 6 months, 2) marked bladder inflammation on at least two consecutive cystoscopies at >3 month intervals, 3) bladder biopsy negative for malignancy. Patients were excluded if they had prior pelvic radiation. All patients completed 24 hour bladder diaries, underwent routine lab studies, cystoscopy, bladder biopsy, videourodynamics, upper tract imaging, urine for bacterial & fungal culture, acid fast bacillus and cytology. The records were reviewed to determine 1) the time between initial presentation of PBS and marked bladder inflammation, 2) results of the diagnostic evaluation, 3) final treatment outcome based on the Patient Global Impression of Improvement (PGII).

Results

25 patients were identified comprised of 17 women and 8 men ranging in age from 20 – 84 with a mean of 65 years. The time from initial presentation to the development of marked bladder inflammation ranged from 3 – 12 months (median = 5) in 19 patients (76%), was gradually progressive over years in 2 (8%) and unknown in 4 (16%). All but one patient had been evaluated and treated by other physicians prior to referral. Upon presentation all patients had pyuria and microhematuria and initial urine cultures showed > 100 K cfu/ml in 15 (60%), but symptoms were unabated after culture specific antibiotics rendered the urine sterile. All of the other the initial urine tests were negative (fungi, TB, cytology). All patients had markedly inflamed bladders that bled easily on every subsequent cystoscopy. # voids/24 hours ranged from 9 – 43 with a mean of 20 (SD 9) and a median of 18. Maximum voided volume (MVV) ranged from 24 – 360 ml with a mean of 118 ml (SD = 92) and a median of 120 ml. Cystometric bladder capacity ranged from 52 – 1460 ml (SD = 371) with a median of 173 ml. Bladder compliance ranged from 2 – 351 ml/cm H₂O with a mean of 40 (SD 86) and a median of 8. Voiding cystourethrography showed vesicoureteral reflux in 9 (36%). Hydronephrosis was present in 14 (56%) and renal failure in 8 (32%). Initial bladder biopsy showed acute and chronic inflammation in all and was negative for malignancy, but one patient subsequently were found to have T3 bladder cancer that did not have a mucosal component. All of the remaining patients had non-specific acute and chronic inflammation, 19 of whom also had “granulomatous cystitis.” One (4%) had previously undiagnosed colovesical fistula. All patients were advised to have cystectomy & urinary diversion, but only 5 agreed and of these, all had a PGII of 1 – 2 (cure/improve). Six (24%) underwent partial cystectomy and augmentation cystoplasty of whom 4 had a PGII of 1 -2; the other two were worse (PGII 5,7) Two patients underwent suprapubic cystostomy one of whom also had bilateral nephrostomy tubes and at 1 year both had a PGII of 3. The patient with bladder cancer underwent chemotherapy and died 18 months later. The remainder (including the patient with colovesical fistula) underwent a variety of empiric therapies and all had a PGII of 4 except for one who had spontaneous remission after 9 months and remains asymptomatic 2 years later.

Interpretation of results

The majority of patients with ESB (76%) do not progress from PBS or IC, but rather, have a fairly acute onset over the course of 3 months to one year. Although most appear to be idiopathic, bladder cancer and colovesical fistula may present as ESB. Empiric treatments are rarely effective. Radical surgical treatment offers the best chance for success.

Concluding message

Endstage bladder is not the end stage of interstitial cystitis and results from the end stage of a variety of underlying conditions most of which can be identified as related to “granulomatous cystitis”. Unfortunately most such patients will not respond to conservative therapy and will likely require cystectomy and urinary diversion.

Specify source of funding or grant	Institute for Bladder and Prostate Research
Is this a clinical trial?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	No
This study did not require ethics committee approval because	It was a retrospective review of patient charts in a single practice with no identifiable patient information
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	No