

Medications for Treatment of Interstitial Cystitis

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Clinical Question

Which oral medications are effective for the management of interstitial cystitis?

Evidence-Based Answer

There are no long-term clinically effective oral medications. Pentosan (Elmiron) can improve overall symptom scores for interstitial cystitis over three to six months, but it does not improve scores for any of three individual symptoms (dysuria, urgency, frequency) compared with placebo. (Strength of Recommendation [SOR]: B, based on randomized controlled trials [RCTs].) Cimetidine (Tagamet) can improve overall symptom scores for interstitial cystitis, and it improves nocturia and suprapubic pain by about 50%. It does not improve dysuria, urgency, frequency, relief after voiding, or incomplete emptying. (SOR: B, based on a single small RCT.) Amitriptyline and hydroxyzine (Vistaril) should not be used to reduce symptom scores for interstitial cystitis. (SOR: C, based on two small RCTs with conflicting results.)

Evidence Summary

A systematic review of five RCTs included 569 patients in Europe (75% to 97% female; mean age = 43 to 57 years) with interstitial cystitis/painful bladder syndrome.¹ Patients were randomized to pentosan (100 mg three times per day to 200 mg two times per day) or placebo. Patient self-report questionnaires were used to evaluate symptoms. Pentosan produced minimal or no significant improvement in symptom scores, but a pooled analysis of all five trials showed improvement in overall symptom scores for dysuria, nocturia, frequency, and urgency (relative risk = 1.78; 95% confidence interval, 1.34 to 2.35). Three of the studies reported patient-assessed overall improvement rates,

with numbers needed to treat of six to nine. The only adverse effect reported was edema.

A single RCT (n = 36; 97% female; mean age = 42 years) found that cimetidine (400 mg two times per day) improved overall urinary symptom scores (aggregate of nocturia, frequency, urgency, dysuria, relief after voiding, and incomplete emptying) more than placebo (40% vs. 4%, respectively).² Cimetidine improved scores for only two individual symptoms: nocturia (61% vs. 0%; $P = .006$) and suprapubic pain (56% vs. 6%; $P = .009$).

Two RCTs comparing amitriptyline with placebo in patients with interstitial cystitis had conflicting outcomes. A multicenter, multinational RCT involving 271 patients (83% female; mean age = 38 years) found that amitriptyline (10 to 75 mg per day) was no more effective than placebo in reducing symptom scores ($P = .12$).³ An RCT with 50 patients (88% female; mean age = 55 years) demonstrated that amitriptyline (25 to 100 mg per night) decreased mean urinary symptom scores more than placebo (36% vs. 12%; $P = .005$).⁴ Amitriptyline reduced pain and urgency symptoms. Both studies found higher rates of anticholinergic effects with amitriptyline.

An RCT involving 62 U.S. patients (87% female; mean age = 44 years) found that the addition of hydroxyzine (10 to 50 mg per day) to pentosan did not improve symptom scores compared with pentosan plus placebo.⁵ Investigators evaluated aggregate symptom scores for dysuria, urgency, and frequency (symptom score improvement: hydroxyzine 31% vs. placebo 20%; $P = .26$).

Recommendations from Others

Guidelines from the American Urological Association recommend patient education, ►

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self-care practices, behavioral modification, and stress management as first-line therapy for patients with interstitial cystitis.⁶ They recommend oral hydroxyzine, cimetidine, amitriptyline, and pentosan as second-line therapies and note that all of these agents may cause adverse effects and have unpredictable effectiveness.

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