

## **COMPARATIVE ASSESSMENT OF MAXIMAL BLADDER CAPACITY, 0.9% NaCl VS. 0.2 M KCl BEFORE AND AFTER THERAPY FOR INTERSTITIAL CYSTITIS**

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**INTRODUCTION & OBJECTIVES:** For diagnosis of increased potassium sensitivity in patients with interstitial cystitis (IC) comparative assessment of maximal bladder capacity (CAMBC) with a 0.9% NaCl solution vs. a 0.2 M KCl solution is a well tolerated alternative to the 0.4M potassium sensitivity test (PST) (Daha et al., J.Urol., 165, Supp: A 280, 2001). In the present study comparative assessment of maximal bladder capacity was performed before and after GAG substitution therapy to assess the post therapeutic changes in potassium sensitivity.

**MATERIAL & METHODS:** The study comprised a total of 20 volunteers with IC who showed increased potassium sensitivity (reduction of maximal bladder capacity > 30% with 0.2MKCl vs. saline). All patients were treated with weekly with 50cc of 40 mg Hyaluronic acid for 10 weeks. Eight patients who showed no improvement after 5 weeks of therapy had an additive intravesical treatment with 200mg Pentosanpolysulfate (PPS) instillations three times weekly for 5 weeks. After this treatment period CAMBC was repeated.

**RESULTS:** Patients were separated into 2 groups according to their response to therapy. Symptom improvement was observed in 12 patients (Group I). In this group average maximal bladder capacity was 249.5 cc with saline solution and 153.4 cc with 0.2M KCl solution before therapy. After therapy maximal bladder capacity increased to 360.6 cc (+44 %) with a saline solution and 286.6 cc (+86%) with a 0.2M KCl solution. Maximal bladder capacity reduction with KCl ranged from 0% (4 patients) to 20% (1 patient) and averaged 11 %. 8 Patients had no improvement after therapy (Group II). In this group average maximal bladder capacity was 232.5 cc with saline solution and 153.4 cc with 0.2M KCl solution before therapy. After therapy maximal bladder capacity was reduced to 184 cc (- 21 %) with a saline solution and 144 cc (- 13 %) with a 0.2M KCl solution.

**CONCLUSIONS:** Patients who clinically respond to intravesical GAG substitution therapy show an increase of bladder capacity and a normal posttherapeutic CAMBC, whereas patients without symptom improvement have a reduction of all bladder capacity parameters after therapy. These data demonstrate that GAG substitution responders also show improvement of bladder function, suggesting correction of increased urothelial permeability in these cases.