

## CLINICAL COMPARISON OF INTRAVESICAL HYALURONIC ACIDE AND CHONDROITIN SULPHATE THERAPY FOR BLADDER PAIN SYNDROME/INTERSTITIAL CYSTITIS

### Hypothesis / aims of study

In this study, patients with history of bladder pain syndrome/interstitial cystitis(BPS/IC) are compared for clinical efficacy of intravesical hyaluronic acide (HA) or chondroitin sulphate (CS) therapy.

### Study design, materials and methods

Patients are randomized for intravesical therapy with 50 ml/120 mg sterile sodium HA (HYACYST®) or 40 ml/80 mg sodium CS (GEPAN INSTILL®). Intravesical instillations were done weekly in first month, once in 15 days in second month and monthly in third and fourth months as total of 8 intravesical doses. Patients were evaluated for visual analog scale score (VAS) for pain, 24 hours frequency, nocturia, median voided volume, symptom index score (ICSI) and problem index score (ICPI) at the beginning of the therapy and after 6 months. Wilcoxon and Mann-Whitney tests were used for statistical analysis.

### Results

In our study, a total of 42 patients were randomized. Twenty one patients that randomized for CS group have a mean age of 47,10 and 21 patients that randomized for HA group have a mean age of 48,90 ( $p>0,05$ ). Parson's test was positive for 14 patients (%66,7) and 13 patients (%61,9) in CS and HA groups respectively ( $p>0,05$ ). Total positiveness rate of Parson's test was %64,3 of the patients (27/42). The initial and post 6 months after the therapy; median voided volume in CS group was 136 cc vs. 155 cc ( $p<0,05$ ) and in HA group was 148 cc vs. 168 cc ( $p>0,05$ ) and there is no statistical significance between two groups ( $p>0,05$ ); median of 24 hours frequency in CS group was 16 vs. 10 ( $p<0,05$ ) and in HA group was 12 vs. 11 ( $p<0,05$ ) and there is statistical significance between two groups ( $p<0,05$ ); median number of nocturia in CS group was 3 vs. 1 ( $p<0,05$ ) and in HA group was 2 vs. 1 ( $p<0,05$ ) and there is statistical significance between two groups ( $p<0,05$ ); median ICSI score in CS group was 17 vs. 9 ( $p<0,05$ ) and in HA group was 16 vs. 10 ( $p<0,05$ ) and there is no statistical significance between two groups ( $p>0,05$ ); median ICPI score in CS group was 14 vs. 7 ( $p<0,05$ ) and in HA group was 13 vs. 8 ( $p<0,05$ ) and there is statistical significance between two groups ( $p<0,05$ ); and median VAS score in CS group was 8 vs. 5 ( $p<0,05$ ) and in HA group was 9 vs. 4 ( $p<0,05$ ) and there is no statistical significance between two groups ( $p>0,05$ ). There was no severe adverse effects noted.

### Interpretation of results

CS is superior to HA on 24 hours frequency, nocturia and ICPI, in addition to it increased mean voided volume.

### Concluding message

With 6 months follow up of patients with BPS/IC, both CS and HA instillation reduced symptoms significantly with no severe adverse effects. Intravesical CS is superior to intravesical HA in terms of 24 hours frequency, nocturia and ICPI in patients with BPS/IC in short term period.

Parameters	Hyaluronic Acide (HA) n=21	Chondroitin Sulphate (CS) n=21	p value
Age	48.90±17.18	47.10±10.70	$p>0,05$
VAS of pain	9 (min:0 - max:10)	8 (min:5 - max:10)	$p>0,05$
Micturition frequency (24 hours)	13.90±5.69	16.48±5.08	$p>0,05$
Nocturia	2 (min:0 - max:12)	3 (min:1- max:6)	$p>0,05$
Mean voided volume (ml)	148 (min:26 - max:369)	136 (min:29 - max:355)	$p>0,05$
ICSI	16 (min:4 - max:20)	17 (min:11 - max:20)	$p>0,05$
ICPI	13 (min:6 - max:16)	14 (min:8 - max:16)	$p>0,05$
PST positivity rate	%61.9	%66.7	$p>0,05$

HA= Hyaluronic acid, CS=chondroitin sulphate, VAS=visual analog scale , ICSI= interstitial cystitis symptom index, ICPI interstitial cystitis problem index, PST= potassium sensitivity test

Table 1: Pretreatment characteristics of the two groups.

	Hyaluronic Acide (HA)			Chondroitin Sulphate (CS)			HA-CS
	Initial visit	6. month	p value	Initial visit	6. month	p value	p value
VAS of pain	9 (min:0 - max:10)	4 (min:0 - max:9)	<0.05	8 (min:5 - max:10)	5 (min:0 - max:8)	<0,05	>0,05
24 hours frequency	13.90±5.69	11.86±4.52	<0,05	16.48±5.08	10.57±3.61	<0,05	<0,05
Nocturia	2 (min:0 - max:12)	1 (min:0 - max:5)	<0,05	3 (min:1 - max:6)	1 (min:0 - max:4)	<0,05	<0,05
Mean voided volume (ml)	148 (min:26 - max:369)	168 (min:20 - max:333)	>0.05	136 (min:29 - max:355)	155 (min:64 - max:369)	<0,05	>0,05
ICSI	16 (min:4 - max:20)	10 (min:4 - max:19)	<0,05	17 (min:11 - max:20)	9 (min:4 - max:18)	<0,05	<0,05
ICPI	13 (min:6 - max:16)	8 (min:2 - max:16)	<0,05	14 (min:8 - max:16)	7 (min:1 - max:13)	<0,05	<0,05

HA=hyaluronic acid, CS=chondroitin sulphate, VAS=visual analog scale, ICSI=interstitial cystitis symptom index, ICPI=interstitial cystitis problem index

Table 2: Pretreatment and 6. months findings of the patients treated with HA-CS and HA.

Disclosures

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