



601. Intravesical treatment with Hyaluronic Acid and Chondroitin Sulphate in patients with recurrent urinary tract infections:

Which protocol of instillations to use?

Gubbiotti M, Giammò A, Rosadi S, Ammirati E, Costantini E, Illiano E, Cicalese A, Leonardo M, Bacchiani M, Rubilotta E, Serni S, Carrieri G, Mancini V, Li Marzi V



Hypothesis and aims of the study

Therapy based on the reinstatement of the glycosaminoglycan (GAG) bladder epithelium has been demonstrated effective and safe for the treatment of recurrent urinary tract infections (r-UTIs). Standardized protocol of intravesical instillations of hyaluronic acid (HA) and chondroitin sulphate (CS) for the r-UTI's therapy has not yet been proposed. Aim of the study was to compare the safety and efficacy of two different protocols of instillations of HA+CS in patients with r-UTIs.

Materials and Methods

This was a prospective, multicentre Italian study, enrolling women with age >18 years, with r-UTIs, defined as European Association of Urology guidelines on urological infections, with a diagnosis of r-UTI confirmed by positive urine culture. Women underwent medical and urological history, uroflowmetry (UF), VAS score (to evaluate pelvic pain), urinalysis and culture. Based on treatment protocol, patients were divided in group A (HA+CS administered once weekly for 4 weeks and then once monthly for 12 months) and group B (HA+CS administered once weekly for 8 weeks and then once monthly for 12 months). Baseline evaluation was repeated in the two groups at 1- 3- 6 and 12-month follow-up.

Results

137 patients (group A: 67 pts; group B: 70 pts) from 5 centres were included. Mean (\pm SD) age was 58.6 (\pm 17.3) in group A and 52.6 (\pm 14.3) in group B. No patients were in antibiotics therapy at the start of HA+CS therapy. All storage symptoms significantly decreased and VAS score increased during the therapy and at the last follow-up, without significant differences between the two groups (table).

UTIs' episodes at the last follow-up were 0.6 ± 0.5 in group A and 0.7 ± 0.3 in group B, respectively ($p < 1$). No significant differences were observed regarding UF parameters during the treatment in both groups.

Table. Urinary symptoms, VAS score and UF parameters, before and after HA+CS treatment

	Pre-instillations		1-mos Follow-up		3-mos Follow-up		6-mos Follow-up		12-mos Follow-up	
	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
Increased day-time urinary frequency (%)	55/67 (82.1%)	57/70 (81.4%)	40/67 (59.7%)	44/70 (62.8%)	35/67 (52.2%)	38/70 (54.2%)	23/67 (34.3%)	25/70 (35.7%)	17/67 (25.3%)	19/70 (27.1%)
Increased night-time urinary frequency (%)	23/67 (34.3%)	26/70 (37.1%)	22/67 (32.8%)	24/70 (34.3%)	19/67 (28.3%)	20/70 (28.5%)	13/67 (19.4%)	14/70 (20%)	9/67 (13.4%)	9/70 (12.8%)
Urgency episodes/day (%)	33/67 (49.2%)	37/70 (52.8%)	17/67 (25.4%)	18/70 (25.7%)	8/67 (11.9%)	9/70 (12.8%)	7/67 (10.4%)	9/70 (12.8%)	8/67 (11.9%)	8/70 (11.4%)
UI episodes/day (mean \pm SD)	11/67 (16.4%)	10/70 (14.3%)	7/67 (10.4%)	7/70 (10%)	4/67 (5.9%)	5/70 (7.1%)	4/67 (5.9%)	4/70 (5.7%)	3/67 (4.5%)	5/70 (7.1%)
UF (Q,max) (mean \pm SD)	20.116.1	24.115.2	19.515.1	23.314.2	21.216.2	24.715.6	20.116.1	22.517.1	22.715.3	20.116.1
PVR (mean \pm SD)	20.117.2	18.116.9	19.816.2	18.916.1	21.717.3	19.117.5	18.917.5	18.816.2	20.816.2	18.917.3
VAS (mean \pm SD)	4.5 \pm 0.3	4.7 \pm 0.1	5.7 \pm 0.8	5.9 \pm 0.3	6.2 \pm 1	6.5 \pm 0.7	6.5 \pm 0.8	6.4 \pm 0.5	7.3 \pm 0.5	7.5 \pm 0.3

p: between group A/group B for each item and follow-up. Non statistical differences were found.

Interpretation of results

This study showed that HA+CS is a safe and effective treatment for r-UTIs. After 12 months of treatment, the vast majority of the patients was cured or significantly improved. No significant differences were noted between the two protocols of instillations. From an economic point of view and due the comparable results, protocol of group A is recommended compared to group B.

Conclusions

To date, there is a growing body of evidence indicating the benefit of restoring GAGs bladder layer therapy in the treatment and prevention of r-UTIs, but there is no standardized protocol of instillations yet. Our data showed comparable clinical effectiveness in urinary symptoms, pelvic pain and UTIs recurrence between the two protocols proposed. If the cost-effectiveness profiles are considered, based on the cost-analysis, protocol A is the most suitable one.