USEFULNESS OF INTRAVESICAL INSTILLATION OF HYALURONIC ACID AND CHONDROITIN SULPHATE IN PREVENTING RECURRENT BACTERIAL CYSTITIS

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• Urinary tract infections (UTI) are very common in the female population, with a high incidence of recurrence
• Currently, there is no permanent cure for UTI which often requires a life-long management plan with the goal of maximizing the use of medical treatment
• Acute UTI are traditionally treated by intermittent or prolonged antibiotic therapy, but this management does not appear to give satisfactory results

The use of hyaluronic acid (HA) instillation in the clinical practice is based on the pathogenic mechanism involved in the development of UTI.

HA constitutes an important proportion of bladder surface glycosaminoglycan (GAGs), together with Chondroitin sulphate (CS).

The GAGs layer lining the transitional bladder epithelium seems to be the most important element implicated in forming a “blood-urine barrier”, separating the uroepithelium from urine and thereby preventing the adherence of bacteria.

In contrast, a damaged GAG layer may lead to direct exposure of urothelium to injurious urine components. This leads to an increased risk of bacterial adherences and infections.

We present a retrospective analysis aiming to evaluate compare the HA-CS intravesical instillation with long-term antibiotic prophylaxis in terms of efficacy and tolerability in women with recurrent UTIs.

Methods

Patients

Group A (control group)

Group B (experimental group)

Intravesical instillations of a sterile solution of high concentration of HA and CS in 50 mL water with calcium chloride (IALURIL®)

Long-term antibiotic prophylaxis: sulfamethoxazole 200 mg + trimethoprim 40 mg once daily for 6 weeks

Every week during the first month and then once monthly for 4 months

Follow-up outpatient visits were performed at 1, 3, 6 and 12 months after the end of treatment

Statistical analysis: data were reported as mean and standard deviation (SD). Differences between categorical groups were analyzed by Fischer’s Exact test. The level of significance (P) was set at 0.05.

Results

Group A: 76 pts - Group B: 98 pts

During follow-up, moderate/severe symptoms of UTI: 65.2% of cases Group A - 39.6% of cases Group B (p =0.001).

At the end of the follow-up period (12 months), 16 patients in group A (21.0%) and 36 patients in group B (36.7%) were free from UTI episode (p=0.03).

Conclusions

Our data, although preliminary, show the validity of HA-CS intra-vesical instillations as a new therapeutic option in the treatment of recurrent UTIs. It could be a true alternative to traditional antibiotic prophylaxis. Further assessment will be necessary with prospective randomized blinded studies on a larger sample population.

Characteristics of UTIs episodes after 12 months of follow-up

<table>
<thead>
<tr>
<th></th>
<th>Control (group A)</th>
<th>Experimental (group B)</th>
<th>P</th>
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<tbody>
<tr>
<td>Patients (n.)</td>
<td>76</td>
<td>98</td>
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<tr>
<td>UTIs (n.)</td>
<td>109</td>
<td>69</td>
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<tr>
<td>Patients with UTI episodes (n.%)</td>
<td>60, 78.9</td>
<td>62, 63.3</td>
<td>0.003</td>
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<td>Patients with 1 recurrence (n.%)</td>
<td>24, 31.4</td>
<td>57, 58.2</td>
<td>0.001</td>
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<td>Patients with 2 recurrences (n.%)</td>
<td>23, 30.3</td>
<td>3, 3.1</td>
<td>&lt;0.0001</td>
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<td>Patients with 3 recurrences (n.%)</td>
<td>13, 17.1</td>
<td>2, 2.0</td>
<td>0.001</td>
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References