

# Poster: 43 Intravesical hyaluronic acid instillation in treating recurrent cystitis in women: preliminar observation.

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## Introduction and aim of the study

Recurrent urinary tract infections (RUTIs) are defined in literature as 3 episodes of urinary tract infections in the last 12 month or as two episodes in the last 6 months. RUTIs risk factors are genetic and behavioural. In Italy there are 6 millions UTI per year.

Among the main causes of chronic or relapsing cystitis there might be an alteration of the transitional epithelium which is a real protective barrier. Normal bladder epithelium (urothelium) is covered by a protective film formed by glycosaminoglycans (GAG). After a first infectious event this barrier gets damaged and bacteria can penetrate the urothelium, originating inflammatory mechanisms which are the basis of chronic or relapsing cystitis

## Materials and Methods

INSTYLAN is composed of Hyaluronic acid, sterile solution for intravesical irrigation 0,16%, containing in 50 ml, Hyaluronated Sodium 80 mg (high molecular weight 2 Mda).

In our work we want to evaluate the ability of INSTYLAN in reducing rUTIs and their symptoms without collateral effects.

We enrolled 12 women, median age 54 years (range 35-78). They had irritative vesical symptoms since at least 8 months and were treated initially with attack therapy and after with cycles of nitrofurantoin or phosphomicin without results.

All the patients had symptoms ongoing, with a micturition frequency of at least 8 times/24 hrs.

We evaluated the same parameters in the control group, composed of 10 women, median age 48 (range 37-75) treated with fosfomycin 3 g once a week during 2 months. Primary endpoint: reducing UTIs frequency within 3 months. Secondary endpoints: variation of the micturition frequency's episodes, safety standards, adverse events, post-void residual (PVR) reduction. We administered 1 instillation/week of INSTYLAN for 8 weeks.

The patients were informed regarding the aims and the characteristics of the procedure. They signed an informed consent. After emptying the bladder, the patients were put in supine position. We inserted a 14 ch autolubricated catheter for almost all its length. We checked the presence of PVR.

We introduced INSTYLAN in the bladder via catheter. The patients stayed in supine position for 5 minutes, then they were invited not to urinate for at least 2 hours and they were invited to go home.

The patients filled a micturition diary 3 days before the first and the last instillation. Urinoculture was executed at the beginning and at the end of the therapy. Adverse events have been evaluated at every visit. PVR was evaluated via standard US scan or extemporaneous bladder scan at first and last visit.

## Results

At the end of the treatment 10 patients referred satisfaction and clinical improvement, their urinoculture was negative at 3 months. 2 patients underwent UTI

relapse (Klebsiella and E. coli).

No hematuria or other systemic effects were observed. No collateral effects were reported (only one case of initial strangury). A significant improvement of bladder capacity was reported. GCI was positive in 70% of the cases.

## Discussion and conclusion

Intravesical instillation of hyaluronic acid repairs the GAG layer on the urothelial surface and prevents therefore bacterial adhesion. A small meta-analysis (4 studies, 143 patients) on the efficacy of intravesical hyaluronic acid as possible treatment of UTIs relapse showed promising results.

Authors of a review published on BMJ conclude that, given the evidences, antibacterial prophylaxis remains the gold standard in preventing UTIs' recurrence in women. However, seen the increasing problem of antibacterial resistance, the research of alternative therapies is very active both by patients and doctors.

Albeit on a limited number of patients, our experience with the use of intravesical INSTYLAN has been positive, the patients have been satisfied. The methodology is simple and it has substantially no collateral effects. However there is the need of a multicentric study versus placebo to get statistically significant data.