**554**

Li Marzi V[1], Del Popolo G[2], Maurelli V[3], Cocci A[1], Perugia C[3], Bove P[4], Nicita G[1], Finazzi Agro E[5]

***1.*** *Dept of Urology University of Florence, Florence, Italy,* ***2.*** *Neuro-Urology Unit, Careggi University Hospital, Florence, ITALY,* ***3.*** *School of Specialization in Urology, Tor Vergata University, Rome, Italy,* ***4.*** *Dept. of Experimental Medicine and Surgery, Tor Vergata University, Rome, Italy,* ***5.*** *Dept. of Experimental Medicine and Surgery, Tor Vergata University, Rome, Italy*

# INTRAVESICAL ADMINISTRATION OF HYALURONIC ACID PLUS CONDROITIN SULPHATE TO REDUCE LOCAL BACILLUS CALMETTE GUERIN (BCG) TOXICITY: A RANDOMIZED PROSPECTIVE PILOT STUDY

Hypothesis / aims of study

Bacillus Calmette Guerin (BCG) is considered the most effective treatment to increase disease-free interval and reduce progression of non muscle invasive bladder cancer (NMIBC) (1). Although considered safe, BCG can produce local side effects leading to treatment cessation or interruption. Even if controversial, the overall body of evidence seems to support the necessity of BCG maintenance treatment. Thus, patients who discontinue or suspend the BCG treatment could have less benefits than those able to continue the maintenance protocol; different strategies (dose or time of exposure reduction, use of antibiotics) have been proposed to reduce BCG local toxicity. Hyaluronic acid (HA) has recently shown to reduce local side effects of BCG in a pilot study (2). Aim of this study was to evaluate the efficacy of Hyaluronic acid (HA) plus condroitin suphate (CS) in reducing local BCG toxicity.

Study design, materials and methods

This is a two centre prospective pilot study. 24 consecutive subjects undergoing BCG intravesical administration for high risk NMIBC were randomized (after informed consent) to receive BCG only (group A) or BCG and HA/CS (group B). HA/CS (Ialuril®, IBSA, Pambio Noranco – Switzerland) was administered intravesically after every BCG administration, after BCG evacuation and bladder washing with saline. Patients were instructed to maintain HA in the bladder as long as possible after catheter removal. A 1 to 10 Visual Analog Scale (VAS) for bladder pain, International Prostate Symptom Score (IPSS ) and number of micturitions per day were evaluated in the two groups before and after six weekly BCG instillation.

Results

Results are reported in table 1. Fifteen patients (8 in group A and 7 in group B) came from center 1 and the remaining 9 (4 in group A and 5 in group B) came from center 2.

Table 1

| | Group A | Group B | p | Group A | Group B | P | Group A | Group B | p |
|---|---|---|---|---|---|---|---|---|---|
| Mean (SD) | Pre-treatment | | | Post-treatment | | | Differences (post-pre) | | |
| VAS (1-10) | 3,7 (3,3) | 3,8 (2) | .94 | 4,8 (2,8) | 2,8 (1,4) | .045 | 1,1 (1,8) | -0,9 (1,3) | .004 |
| IPSS | 8,8 (4,3) | 9,4 (4,0) | .73 | 17,5 (8,8) | 7,8 (2,6) | .001 | 8,7 (9,9) | -1,6 (1,9) | .0001 |
| Number of daily micturitions | 9,3 (2,8) | 9,2 (2,2) | .91 | 9,5 (3) | 8,3 (2,8) | .32 | 0,2 (1,9) | -0,9 (2,8) | .28 |

Interpretation of results

The results obtained after administration of HA+CS are comparable with those, recently published, obtained after coadministration of BCG and HA. VAS for bladder pain and IPSS were significantly lower after BCG administration in group B (patients treated with HA); in particular, IPSS showed a huge increase after BCG administration that was not noticed in patients treated with HA+CS (where a little reduction of IPSS war registered). The number of daily micturitions was not significantly different in the two groups. The differences in VAS and IPSS pre and post treatment were highly significant between the two groups with an improvement of the scores in group B and a worsening in group A. These preliminary data seem to confirm a role of HA+CS in reducing BCG local side effects.

Concluding message

In this preliminary report HA+CS was found able to avoid any increase of VAS for pain and IPSS observed after BCG administration. These preliminary data seem to support a possible role of HA+CS in reducing BCG local side effects. Nevertheless, randomized controlled trials should be performed before to draw any conclusion, even to exclude possible interferences of HA/CS on BCG efficacy.

References

1. Gontero P, Bohle A, Malmstrom PU, O'Donnell MA, Oderda M, Sylvester R, Witjes F. The role of bacillus Calmette-Guérin in the treatment of non-muscle-invasive bladder cancer. Eur Urol. 2010 Mar;57(3):410-29
2. Neurourol Urodyn. 31;S1: 34, 2012

Disclosures

**Funding:** None **Clinical Trial:** Yes **Public Registry:** No **RCT:** Yes **Subjects:** HUMAN **Ethics Committee:** Policlinico Tor Vergata Independent Ethics Committee **Helsinki:** Yes **Informed Consent:** Yes