

The Effects of Sodium Hyaluronate (Hyacyst©) on Postoperative Lower Urinary Tract Symptoms

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PURPOSE: Examination of the efficiency of sodium hyaluronate in the prophylaxis of De Novo lower urinary tract symptoms after cystocele repair postoperatively.

MATERIALS-METHODS: We studied 31 cases who had undergone cystocele repair (conventional or using mesh) at the Urogynecology Unit of Ankara Atatürk Training and Research Hospital between 01.01.2009 and 01.12.2009. Preoperative urinary analyses of cases revealed normal findings, with no reproduction in urinary cultures. Cases were given 1 g Cefazoline Sodium IM preoperatively. Patients were randomly divided into two groups and after cystocele repair, 120 mg/50 ml sodium hyaluronate solution (Hyacyst®) was administered to 16 cases postoperatively after 12 hours from the bladder using Foley catheter before removal of the bladder catheter, then the catheter was taken out. Hyaluronate was kept for at least 2 hours in the bladder and, during that time, the patient was kept alternately in supine and prone positions. This group was considered as the study group. And nothing was administered to the 2nd group (n=15), which was considered as the control group. On the 3rd day postoperatively, we looked for De Novo lower urinary system symptoms (urge urinary incontinence episode and/or urge-frequency and/or dysuria) in the cases. We observed no reproduction in the urine samples of the cases taken on the same day. Nonparametric tests were used for statistical analyses because the data showed no normal distribution. Continuous variables were analyzed using Mann-Whitney U test for independent groups, whereas the categorical variables were by the Chi-Square Test.

FINDINGS: The two groups shared similar average ages and delivery numbers ($p=0.464$ and $p=0.786$, respectively). While we observed lower urinary tract symptoms in 2 cases in the study group on the 3rd day postoperatively, we had 46.6% (7/15) of the cases with lower urinary tract symptoms in the control group, and this was a statistically meaningful difference ($p=0.036$).

RESULTS: Postoperative symptoms of sodium hyaluronate administered intravesically to the prophylaxis of lower urinary tract were dramatically reduced, increasing satisfaction. Glucoseaminoglycans (GAG) bind water molecules together due to their hydrophilic structures and create a protective layer on the bladder wall, blocking the irritating effect of urine by creating a barrier between the urine and the bladder. We believe that sodium hyaluronate becomes effective by contributing to this process.

Keywords: Sodium hyaluronate, urge urinary incontinence episode, urge-frequency syndrome, dysuria