An effective surgical treatment for large central cystoceles: anterior bridge plus transvaginal holding sutures

Abstract

Objective: To evaluate the efficiency of anterior bridge plus transvaginal holding sutures in the treatment of large central cystoceles.

Materials and methods: A total of 75 patients with large central cystoceles were enrolled for the study. The operation was evaluated in terms of operation time, amount of bleeding, postoperative pain, postoperative incontinence and postoperative pelvic relaxation.

Results: The mean age of the group were 44±4 and 29±2, respectively. The mean of the operation time and the bleeding amount were 30±5min, 50±3ml, respectively. The postoperative incontinence and the recurrent pelvic relaxation rates were 4%.

Conclusion: Anterior bridge and transvaginal holding sutures is a very effective operation in the treatment of large central cystoceles. Moreover, postoperative incontinence and recurrent pelvic relaxation rates are very low.

Introduction

Anterior colporraphy has been used in the treatment of anterior vaginal wall prolapse for years. This operation is a surgical procedure for correcting relaxation of the pelvic supporting structures, mainly the pubocervical fascia. However, high recurrence rates and the occurrence of de novo stress urinary incontinence make this procedure increasingly problematical. The aim of this study is to evaluate the efficiency of anterior vaginal colporraphy and anterior bridge plus transvaginal holding sutures which is a new technique in the treatment of cystoceles.

Materials and methods

A total of 75 women were enrolled in the study. The study was carried out in the SSK Ankara Women's and Maternity Teaching Hospital. Each patient signed an informed consent form after a explanation of the operation. Enrolment criteria were:

- Cystocele with loss of vaginal rugae of second or third degree (according to the Pelvic Organ Prolapse Quantification system).
- No complaint of incontinence.
- No urinary infection.
- No diabetes.
- No hypercalcemia.

All of the patients underwent urodynamic studies before the operation and the patients who had any form of incontinence were not recruited to the study. The study protocol was approved by the Ethics Committee of the hospital. The operation was evaluated in terms of age, body mass index, operation time and the amount of bleeding. The patients were re-evaluated 6 months later in terms of postoperative incontinence and postoperative pelvic relaxation. Cystoceles protruding through the hymenal ring were considered as recurrent pelvic relaxation after the operation, whereas cystoceles within the wholly within the vagina or at the hymenal ring were considered as cure. Patients with postoperative incontinence symptoms were investigated with urodynamic studies. Student t-test and chi-square test were used where appropriate. p value was set at p<0.05.
Surgical technique

Anterior bridge and transvaginal holding sutures

After local injection of sterile isotonic water, a full thickness elliptical incision 2cm wide over the herniation was made, extending from the level 1cm distal to the bladder neck down to the cervix. Extensive diathermy was used to destroy the superficial vaginal epithelium overlying the herniation. The margins of the destroyed vaginal tissue were sutured with interrupted sutures resulting in a double layer 'bridge'. The anterior part of the bridge was anchored by burrowing 0.5cm below the anterior border of the incision, the posterior part 1cm below the posterior incision.

Minimal dissection was performed to the lateral vaginal border. Two incisions 2cm long were made in the lateral sulci commencing at the level of bladder neck on both sides. A PDS suture was inserted through the incision on one side, running subepithelially as a horizontal suture through the bridge and out through the opposite incision. The suture was then returned through the bridge to the other side where it first started. A second suture, in an identical fashion, was placed 1cm from the first.

The incision on the anterior vaginal wall was then closed with interrupted no.2 vicryl sutures. The continuous horizontal mattress sutures were tied without tension. The incisions on both lateral sulci were sutured with no.2 vicryl suture material (Figure 1).

Results

The mean age of the group was 44 years. The mean body mass index was 29. The mean of the operation time and the bleeding amount were 30min and 50ml respectively. When the patients were evaluated at the 6th postoperative month, it was noted that three patients developed postoperative incontinence (4%). Urodynamic studies confirmed that two of them were mixed incontinence and one of them was detrusor instability. Recurrent postoperative pelvic relaxation was diagnosed at three patients (4%). All the data are summarised in Table I.

Discussion

Anterior vaginal wall prolapse can be a bothersome gynaecological problem, not only to patient but also to the treating gynaecologist. In order to be successful in the treatment of such cases, the treating surgeon should be aware of the concept on site-specific fascial defects popularised by Richardson et al. 1.

Cystoceles have been classified as central cystoceles and cystoceles with paravaginal defects. At examination, it is easily noted that vaginal rugae on the anterior vaginal wall are lost in

Table 1. The data of the operation intraoperative and postoperative.

<table>
<thead>
<tr>
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<th>(n=75)</th>
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<tbody>
<tr>
<td>Age</td>
<td>44±4</td>
</tr>
<tr>
<td>BMI</td>
<td>29±2</td>
</tr>
<tr>
<td>Operation time (min)</td>
<td>30±5</td>
</tr>
<tr>
<td>Bleeding amount (ml)</td>
<td>50±5</td>
</tr>
<tr>
<td>No. of postoperative incontinence</td>
<td>3</td>
</tr>
<tr>
<td>No. of recurrent pelvic relaxation</td>
<td>3</td>
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Figure 1. Schematic drawing of the transvaginal holding sutures.
central cystocele due to anatomical pressure of the bladder over the vaginal rugae from distorted pubocervical fascia. Paravaginal defects have been described as the peeling off of pubocervical fascia from the arcus tendineus fascia pelvis (ATFP), resulting descent of bladder over the anterior vaginal wall and protruding through the vagina as a cystocele.

The effectiveness of anterior vaginal colporrhaphy in the treatment of paravaginal cystoceles is questionable. Anterior bridge and transvaginal holding sutures is an effective surgical procedure in the treatment of large cystoceles, whether a paravaginal defect coexists or not.

Beck et al. found that the incidence of new incontinence was 11% (6% and 5% of cases were diagnosed as genuine stress incontinence and detrusor instability, respectively) after anterior colporrhaphy. In our study, we found that new incontinence incidence was 4% (two and one of cases were diagnosed as as mixed stress incontinence and detrusor instability, respectively). Kohli et al. reported that recurrent cystocele rate was 7% after anterior colporrhaphy while, in our study, we found the rate as 4%. The low pelvic relaxation rate in the latter operation might be due to the transvaginal holding sutures.

In the light of the data, we conclude that anterior bridge plus transvaginal holding sutures seems to be an efficient procedure in the treatment of large central cystoceles.

References