

LAPAROSCOPIC PARAVAGINAL REPAIR WITH CONCOMITANT BURCH COLPOSUSPENSION OR SPARC SLING

Hypothesis / aims of study

It is estimated that 90% of cystoceles are associated with paravaginal defects due to lateral detachment of the pubocervical fascia from the arcus tendineus fascia pelvis (white line) on the lateral pelvic wall (1). These lateral defects interfere with the horizontal support to the bladder and urethra (DeLancey level 2 defects) and can be treated in a site-specific fashion by performing a paravaginal repair. This procedure can be performed by open abdominal, laparoscopic or vaginal approaches. The laparoscopic paravaginal repair allows for an unobstructed view of the white line and pubocervical fascial break and as it does not require splitting of the vaginal mucosa from the underlying pubocervical fascia, it provides more secure suture attachment on the vagina (2). By attaching the sutures to Cooper's ligament, a very strong bladder support is achieved.

This study reports on the changes in abnormal bladder function before and after laparoscopic paravaginal repair (PVR) and concomitant Burch colposuspension or Sparc sling procedure in patients with cystoceles due to paravaginal defects.

Study design, materials and methods

Between January 2003 and March 2005, 24 women aged 37 to 84 years, with anterior vaginal wall prolapse (stage 1-3 cystoceles) without significant apical prolapse, underwent laparoscopic paravaginal repairs. Concomitant Burch colposuspensions were performed in 15 patients who had hypermobility of the urethra.

Five of these patients had previous abdominal hysterectomies.

Two patients had vaginal hysterectomies.

One patient had a previous posterior IVS procedure.

Four patients had previous anterior vaginal repairs.

Concomitant Sparc sling procedures were performed in 9 patients who had intrinsic sphincter deficiency (ISD) or other complicating factors such as strenuous work or explosive coughing. Four of these patients had previous abdominal hysterectomies.

Two patients had previous vaginal hysterectomies.

One patient had a previous failed open Burch colposuspension.

Three patients had previous anterior vaginal repairs.

There were no intra-operative complications.

Subjective assessments were performed by patients completing a urinary symptom questionnaire before surgery and 1-3 years after surgery. (Average 23.2 months)

Questionnaire:

Please evaluate your symptoms on a scale from 0 – 5

(0 = no trouble at all, 5 = severe trouble):

| | |
|--|-------------|
| 1. Incontinence with cough, sneeze, jump or similar | 0 1 2 3 4 5 |
| 2. Incontinence when you have a severe urge to pass urine and can not reach the toilet in time | 0 1 2 3 4 5 |
| 3. Passing urine more often than every three hours (daytime) | 0 1 2 3 4 5 |
| 4. Getting up to pass urine more than once a night | 0 1 2 3 4 5 |
| 5. Poor urinary flow | 0 1 2 3 4 5 |
| 6. Feeling of incomplete bladder emptying | 0 1 2 3 4 5 |

Results

PVR+Burch group:

Stress urinary incontinence: 9/10 (90%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively and 1/10 (10%) improved with a score of 3.

Urge urinary incontinence: 1/4 (25%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively, one improved (25%) and 2 (50%) remained unchanged. Three patients presented with a score of 0-1 pre-operatively. One remained unchanged post-operatively; one had a score of 3 and one a score of 5. On clinical examination the former had recurrence of a central cystocele and the latter had stage one vault prolapse.

Increased daytime frequency: 2/6 (33%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively and the other 4 (66%) improved with a score of 2-3.

Nocturia: 1/2 (50%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively and the other 1 (50%) improved with a score of 2-3.

Slow stream: 1/1 patient who presented with a score of 4-5 pre-operatively was unchanged

Feeling of incomplete emptying: 4/4 (100%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively.

PVR+Sparc group:

Stress urinary incontinence: 5/5 (100%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively.

Urge urinary incontinence: 2/3 (66%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively and 1 (33%) improved with a score of 2. Only one patient presented with a score of 0-1 pre-operatively and remained unchanged post-operatively.

Increased daytime frequency: 0/3 (0%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively. 3/3 (100%) improved with a score of 2-3.

Nocturia: 1/4 (25%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively and the other 3 (75%) improved with a score of 2-3.

Slow stream: 1/4 (25%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively and the other 3 (75%) improved with a score of 2-3.

Feeling of incomplete emptying: 2/5 (40%) patients who presented with a score of 4-5 pre-operatively had a score of 0-1 post-operatively and the other 3/5 (60%) improved with a score of 2-3.

Interpretation of results

In the PVR+ Sparc sling group 100% patients were subjectively cured (score 0-1) of stress urinary incontinence despite the fact that they presented with ISD or other complicating factors. 66% of patients who presented with urge urinary incontinence were also cured in this group. The symptoms of increased daytime frequency, nocturia, poor urinary flow and feeling of incomplete emptying only showed a 25%-40% cure rate. There was no de novo urge urinary incontinence.

In the PVR+Burch group 90% of patients were subjectively cured (score 0-1) of stress urinary incontinence and 100% of the feeling of incomplete emptying. The symptoms of poor urinary flow, urge urinary incontinence, increased daytime frequency and nocturia showed a 0-50% cure rate.

Two of three patients developed de novo urge urinary incontinence.

Concluding message

Laparoscopic paravaginal repair provides a very strong site specific cystocele repair with minimal postoperative pain. As there is no vaginal dissection, the vaginal mucosa stays intact and this prevents the complications of vaginal stenosis or dyspareunia. In patients with stress urinary incontinence a concomitant suburethral sling may provide the best long-term results.

1. Current Opinion in Obstetrics and Gynecology 2003;15:315-319
2. Current Opinion in Obstetrics and Gynecology 2002;14:387-395

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HUMAN SUBJECTS: This study did not need ethical approval because NO ETHICAL APPROVAL WAS NEEDED but followed the Declaration of Helsinki Informed consent was not obtained from the patients.