

Unilateral sacrospinous ligament fixation (USLF) with a mesh stabilizing anchor set: clinical outcome and impact on quality of life

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Summary

Genital prolapse is one of the most significant problems which lowers the quality of life measures of middle and older aged women. A continuously growing number of women are being operated due to this indication. *Objective:* This study intends to assess the clinical outcome and the impact on quality of life of uterine sacrospinous ligament fixation (USLF) conducted with a mesh stabilizing anchor set in the present clinic following vaginal hysterectomy. *Materials and Methods:* Twenty-one patients, diagnosed with genital prolapse and for whom vaginal hysterectomy and (USLF) with the Surelift mesh stabilizing anchor set were performed from April 2010 to June 2013, were assessed in this study. Posterior colporrhaphy was performed in all cases, as well. The cuff level was used to assess the anatomical recovery one year following the surgery. Postoperative relaxation of the vaginal cuff line below the hymenal level was defined as failure. Quality of life (P-QOL) questionnaires validated for Turkish women were used preoperatively and on their first year to assess patient satisfaction. Clinical outcome and impact on quality of life were analyzed in all these cases by using *t*-test for paired samples. *Results:* The mean age of the patients was 67.4 (min-max:43-84) years; mean parity 5.4 (min-max: 2-13). The mean operation time was 56 ± 12 minutes. The mean postoperative follow-up period was 21.4 months. Preoperative mild bleeding (two), postoperative severe pain (three), and micturition problems (one) were found. Therapeutic results and patient satisfaction were evaluated in the 12th month postoperatively: In 18 / 21 (85%) patients, the cuff was located above the hymenal ring. P-QOL scores validated for Turkish women were 52.5 ± 12.9 preoperatively and 11.08 ± 7.9 postoperatively (*t*-test for paired samples revealed a significant difference; $p = 0.04$). *Conclusion:* The treatment of genital prolapse through the abdominal route includes the sacrocolpopexy operation with or without hysterectomy. This method, most of the time, requires a laparotomy if not performed by a specifically trained laparoscopist. It has a longer operation time and mesh erosions are feared complications compared to vaginal route. In sacrospinous fixation cases added to vaginal hysterectomy, operation times are shorter and especially preferable in patients where medical problems coexist. Operative success and patients' satisfaction seems to be provided by this technique.

Key words: Genital prolapse; Sacrospinous ligament fixation; Anchoring system; P-QOL questionnaires.

Introduction

Genital prolapse is prevalent in 30% of middle and older aged group women. This is one of the most important conditions having an unfavorable impact on the quality of life (QOL) and also a leading indication for hysterectomy [1].

An epidemiological analysis has also revealed that 11% of women will have to be operated because of genital prolapse within their lifetimes [2]. Apart from environmental factors, inherited factors as well, have been shown to play an important role in the pathogenesis of genital prolapse [3, 4]. Cuff prolapse complicating hysterectomies postoperatively are a great cause for frustration for the patient as much as for the surgeon. In curing this condition, vaginal sacrospinous fixation is an important alternative to the abdominal sacrocolpopexy operation. In choosing the appropriate operation, the patient's age, accompanying medical problems, previous operations, and certainly the surgeon's experience have to be considered. There have been many previous studies

conducted to compare these two operations [5, 6]. In a recent Cochrane data review comprised of 14 randomized studies: while abdominal sacrocolpopexy was found to result with lower rates of dyspareunia and recurrence rates than vaginal sacrospinous fixation, it is more expensive, takes longer time to operate, and associated with longer intervals to return to normal activities [7]. Sacrospinous fixation is frequently preferred to provide support for weak cardinal-uterosacral complexes in vaginal cuff prolapse cases [8, 9]. Nicholls and Cruikshank have suggested sacrospinous fixation following vaginal hysterectomies. [10, 11] Schraffordt *et al.* in review analysing the therapeutical choices in the treatment of pelvic organ prolapse have stated that in the presence of pelvic organ prolapse, despite the lack of randomized controlled prospective studies it would be better not to perform a vaginal hysterectomy [12]. In our clinical practice, we perform vaginal hysterectomies because for most of our patients.

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Figure 1. — The mesh stabilizing anchor: an anchoring tip connected to prolene suture material both manufactured with late absorbable suturing material.

Over the past decade the quality of life questionnaires are found to be reliable in women with genital prolapse, therefore the present authors have decided to use them to evaluate the clinical outcome of (USLF) using a Surelift mesh stabilizing anchor set.

Materials and Methods

Twenty-one cases who were diagnosed with genital prolapse and operated with vaginal hysterectomy and sacrospinous fixation at the Bagcilar Research and Training Hospital were retrospectively analyzed. The ages, parities, degrees of genital prolapse, the presence of cystocele or rectocele, and presence of accompanying incontinence were noted. Quality of life (P-QOL) questionnaires validated for Turkish women were done preoperatively. [13]

The preoperative examinations were conducted in the supine position during valsalva. The POP-Q grading was used to grade the genital prolapse. The urocanic tests to assess the incontinence were conducted while keeping the prolapsed portion repositioned in the vagina.

Following vaginal hysterectomy, starting from the cuff at the seven o'clock point the vagina was incised for five to six cm to enter the rectovaginal space in the right mediolateral direction. The right ischial spine was palpated and bluntly dissected and exposed. At two to three cm medial to this spine, a Surelift mesh stabilizing anchoring set (Figure 1) was used to implant a knit of prolene through the sacrospinous ligament (Figure 2). At this stage of the procedure, the authors took care to avoid injuring the pudendal vessels/nerves and the sacral plexus. The free end of this prolene was then sutured with a free needle through the midline submucosally and fixed with a hemostat to be knotted after clos-



Figure 2. — The anchoring tip is fixed through the dissected right pararectal space to the right sacrospinous ligament with the control and guidance of the left index finger.

ing the vaginal cuff and about half of the posterior vaginal incision for lifting the whole prolapsed segment. The operation time stopwatch was started at the instance when the vaginal hysterectomy and the anterior colporrhaphy were completed. The actual operation time is supposed to be measured from when the incision is made to access the pararectal space to when the vaginal mucosa is completely closed. A colporrhaphy posterior was performed for all the cases while a colporrhaphy anterior was only added when a more than grade 2 cytocele was present. All the preoperative and postoperative complications were noted. After being discharged, the patients were called back for a routine control at one month and every six months thereafter. At their one-years postoperative control, the therapeutic goal was considered to be a favorable support of the cuff above the hymenal ring with valsalva, in the supine position, namely a state of cuff prolapse no higher than stage 2. Patient satisfaction evaluation with the P-QOL questionnaire was carried out again at the end of the first year.

Results

The mean age and parity of the cases were 67.4 ± 5.2 [43-84] and 5.4 ± 1.1 [2-13], respectively. In grading of genital prolapse: while 16 of the cases were POP-Q grade 4, the other five cases were grade 3. While the number of cases with cystoceles higher than grade 2 were six, those

Table 1. — *The study group (n=21).*

Mean age	67.4 ± 5.2 years
Mean parity	5.4 ± 1.1
Degree of genital prolapse	(Stage 3) 5 patients (Stage 4) 16 patients
Cystocele > Stage 2	6 patients
Rectocele > Stage 2	11 patients
Presence of incontinence	2 patients

Table 2. — *Surgical operation characteristics (n=21).*

Mean operation time	56 ± 12 minutes
Preoperative mild bleeding	2 patients
Postoperative severe pain complaint	3 patients
Postoperative micturition problems	1 patients

Table 3. — *Clinical outcome (n=21).*

Mean postoperative follow-up	214 ± 4.1 months
Cuff located above the hymenal line*	18/21 (85%)
Patient satisfaction (P-QOL scores)**, α	
Preoperative:	52.5 ± 12.9
Postoperative:	11.08 ± 7.9

*Postoperative evaluation in the 12th month; **Postoperative evaluation in the 12th month with the P-QOL questionnaire validated for Turkish women (Seven *et al.*); α: Two values compared with the *t*-test for paired samples; significant difference (*p* = 0.04).

with rectoceles higher than grade 2 were 11. While an anterior colporrhaphy was performed for the six cystoceles graded 2 or higher, a posterior colporrhaphy was performed for all the cases. A tension free obturator tape operation was added for two cases with stress incontinence. The characteristics of the study group is summarized in Table 1. While the operating times were longer in the initial cases, they became shorter as the surgeons acquired more experience. The operation environment was not very hemorrhagic except in two cases where mild bleeding which were easily controlled were encountered. Three of the cases postoperatively complained of a sharp inguinal pain radiating to the ipsilateral femoral area. The pain was alleviated with oral analgesics. Bladder drainage was kept for eight hours for cases who were also treated with TOT or anterior colporrhaphy. In one case where a micturition difficulty was experienced, the bladder drainage was kept for 24 hours. Findings at operation are presented in Table 2.

The mean postoperative follow-up period was 21.4 months. During the postoperative follow-up, the cuff level was maintained above the hymenal ring level in 18 / 21 (85%) patients. According to P-QOL test scores, pre-operative: 52.5 ± 12.9 and post-operative: 11.08 ± 7.9 were found. Two values were compared with the *t*-test for paired samples; significant difference (*p* = 0.04) P-QOL scores, analyses are summarised in Table 3.

Discussion

Genital prolapse cases are treated by the suspension of the cuff to sacral promontorium with a mesh. It was first defined by Lane [14]. This technique has been shown to be superior to other approaches in restituting the normal vaginal axis and capacity [15, 16]. The success rate has been reported to be as high as 90% and the long term results are not as well defined. The unfavorable consequences of the operation include postoperative urinary incontinence, dyspareunia, synthetic mesh erosion, and serious bleeding due to sacral venous plexus injuries [17, 18]. Mesh erosions are observable in two to 2.7% of the cases [18]. Sacrospinous fixation was initially defined by Miyazaki *et al.*, initially being performed bilaterally, but later profoundly unilateral with refined experience [19]. In fact, there has been so far no differences reported among the two approaches [20]. The vaginal route is more effective for treating pelvic organ prolapses (21). Uterine preservation with sacrospinous hysteropexy looks more promising as a treatment option for prolapse though there is still insufficient evidence (22). Anterior vaginal wall relaxations have been reported to be more common following sacrospinous fixations by some authors and the present authors routinely add anterior compartment repair as well [23]. Due to impairing the normal vaginal axis in contrast to the sacrocolpopexy operation, this may not be the ideal approach in sexually active women [24]. For the older women, the procedure can be performed even under locoregional anesthesia. In fact, the success rates are as high as 85-100%.

Although the present long term results are still pending, the short and midterm results are satisfying. In conclusion, the present authors suggest that unilateral sacrospinous fixation using the mesh stabilizing anchor set following vaginal hysterectomy is an effective, safe, and easy approach in the treatment of genital prolapse.

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