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Full length article

Pregnancy outcomes after transvaginal sacrospinous hysteropexy☆

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ABSTRACT

Aim: To evaluate the pregnancy outcomes in women who underwent transvaginal sacrospinous hysteropexy with the review of the literature

Study design: 54 women who underwent transvaginal sacrospinous hysteropexy due to ≥grade 2 uterine prolapse during six-year period were identified from a computer based database. 8 of these who had pregnancy resulted in live birth subsequent to transvaginal sacrospinous hysteropexy were enrolled in this study. They were examined in case of pelvic organ prolapse recurrence and were questioned about their current self satisfaction status and PISQ-12 questionnaire.

Results: The median age of women was 36 years (range 29–43 years). All of the women were multiparous and there were no women with a previous cesarean section. All of the subsequent conceptions following operation occured spontaneously. The median time between hysteropexy and conception was 16 months (range 10–30 months). The pregnancies continued at least 37 weeks with only one preterm delivery (due to twin pregnancy). All 8 pregnancies were delivered by cesarean section. The median follow-up period after cesarean section was 45 months (range 7–60 months). Majority of women (7/8, 87.5%) were satisfied with current outcomes of sacrospinous hysteropexy and PISQ12 questionnaire scores revealed improvement in 87.5% (7/8) of women.

Conclusion: Transvaginal sacrospinous hysteropexy is an appropriate surgical treatment method for symptomatic uterovaginal descensus in women who wish to preserve their uterine and future childbearing. And cesarean section is a reliable and satisfactory delivery route for women who underwent transvaginal sacrospinous hysteropexy.

Introduction

Among hysterectomies for benign disease, uterine prolapse is the third leading cause [1]. In the recent years, women with uterine prolapse began to demand uterus preserving procedures because of plans for future pregnancy, belief that uterus is important in sexual satisfaction [2] and new conservative treatment options for abnormal uterine bleeding [3]. Alhough there is no clear consensus whether vaginal or abdominal route is better in uterus preserving vaginal prolapse surgery, decreased morbidity and patient preference are the main advantages of the vaginal route [4].

Manchester procedure, transvaginal uterosacral ligament suspension/plication and sacrospinous hysteropexy have been performed for years as vaginal hysteropexy techniques [5]. Among these techniques, sacrospinous hysteropexy (SH) is the most popular technique with satisfactory anatomic and functional results [5]. In a recent review, SH has been reported as a safe and effective procedure with similar apical failure rates compared to vaginal hysterectomy for pelvic organ prolapse [4,6].

In the literature, there is very little data about the outcomes of pregnancy and delivery after SH [7–9].

In this study, we wanted to evaluate the outcomes of pregnancy in women who underwent SH with the review of the literature.

Material and methods

Between January 2007 and January 2013, fifty-four women who underwent transvaginal SH were identified from a computer based database.

Ethics Committee of the institution approved the study and all the patients gave informed consent for participation to the study. Of the 54 patients with grade 2 uterine prolapse or greater who

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wished to preserve their uterus and underwent transvaginal SH, 8 had pregnancy which resulted in live birth in our hospital.

Demographic features (age, parity, BMI etc.), medical history, smoking status, preoperative and postoperative pelvic organ prolapse examination, interval between operation and delivery, gestational weeks, follow-up period after delivery were recorded from patients' medical files.

After the data collection, all 8 patients were called by phone and they were informed about the survey. All 8 women were examined in our hospital in case of pelvic organ prolapse recurrence and were questioned about their current self satisfaction status and PISQ12 questionnaire. The short form of the Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12) was used to assess sexual function which includes 12 questions [10].

Uterovaginal prolapse was examined according to Baden-Walker's classification. Grade 1 prolapse was defined as prolapse of uterus to the level of midvagina, grade 2 prolapse was prolapse of uterus to the level of the introitus and grade 3 prolapse was prolapse beyond the introitus [11].

Patients received 1 g of intramuscular cefazolin preoperatively. Operations were performed under regional or general anesthesia in the lithotomy position. *The technique of sacrospinous hysteropexy was as follows:* An incision to posterior vaginal wall is performed and pararectal space is entered bluntly in the right side. Then ischial spine is reached and sacrospinous ligament is palpated. In all patients by using Aksakal's ligature carrier (ALC) [12], one monofilament polypropylene no. 1 suture is inserted into the right sacrospinous ligament 1 cm medial to the ischial spine and another monofilament polypropylene no. 1 is passed through the sacrospinous ligament 1 cm from the first suture. Then posterior cervix is exposed by blunt dissection to place the sacrospinous ligament fixation sutures. The two polypropylene sutures are passed through the posterior cervix by using a free needle. The posterior vaginal incision is closed with 2-0 polyglactin suture and 2–3 cm of the incision is left open to tie the sacrospinous ligament fixation sutures. The two no.1 polypropilene sutures are tied down separately and buried under vaginal wall after they are cut. Then the rest of posterior vaginal incision is closed and the procedure is completed.

In the presence of cystocele or rectocele, anterior or posterior colporraphy procedures were added. Traditional anterior and posterior colporraphy procedures were performed as described in Te Linde's operative gynecology [13]. If the patients had urodynamically proven stress incontinence, transobturator tape (TOT) was performed as described by Delorme [14].

Results

During 6 year-period, 54 women underwent transvaginal SH due to grade 2 or more uterine prolapse. Eight of 54 women became pregnant spontaneously after transvaginal sacrospinous hysteropexy. Demographic features of these 8 women were listed in Table 1. The median age of women was 36 years (range 29–43 years). All of the women were multiparous and there were no women with a previous cesarean section. The median BMI was 28.2 kg/m^2 (range 26.6 kg/m^2–29.4 kg/m^2). One women had a comorbid disease (patient 8, DM) while only one women had undergone POP surgery before SH (patient 5, cyctocele repair). Three women were smokers (patient 2, 5 and 8) before the operation.

The presence of concomitant surgical procedures with SH was shown in Table 2. All eight women had grade 2 or more cystocele and grade 3 or 4 uterine descensus, preoperatively. Only two women (patient 5 and 6) had less than grade 2 rectocele. In three women, incontinence surgery were performed due to presence of stress urinary incontinence. After the surgical procedures, outcomes of patient 8 were not satisfactory due to the continuation of postoperative pelvic organ prolapse and urinary incontinence, however other 7 women had significant improvements regarding preoperative clinical properties (no cystocele, no rectocele, no uterine descensus or no urine leakage is currently present) (Table 2).

All of the subsequent conceptions following SH occured spontaneously. The median time between SH and conception was 16 months (range 10 months to 30 months). 4 pregnancies occured in the first year and 4 pregnancies occured in the second year following SH. The pregnancies continued at least 37 weeks with only one preterm delivery. One of the pregnancies that was preterm was twin pregnancy. All 8 pregnancies were delivered by cesarean section because of possible risk of damage to repaired pelvic structures upon patients' demand. There were no macrosomic infants. The median follow-up period after cesarean section was 45 months (range 7 months to 60 months).

When we have assessed the current self satisfaction status of women, majority of women (7/8, 87.5%) were satisfied with current SH outcomes (Table 3). According to PISQ12 questionnaire, scores of 87.5% (7/8) of women were improved. However, one woman (patient 8) did not state any change according to questionnaire form (Table 3).

Comments

SH introduced by Richardson et al. [15], is the most studied vaginal procedure in case of a uterine descent in which the uterus could be preserved with favorable anatomic and functional outcomes [5]. It has been demonstrated that SH is beneficial for women who choose to preserve their uterus regarding decreased operative times and morbidity and reduced risk of lower genitourinary tract injury [16]. However, the effects of this procedure on fertility and further childbearing is still unclear.

Theoretically, SH may not contribute to fertility problems, since the procedure can be performed by vaginal route which avoids the surgical manipulation of fallopian tubes and ovaries that possibly reduces the risks of intraabdominal adhesion formations. This

Table 1
Demographic features of patients.

Patient	Age	BMI	Parity	Previous Cesarean Section	Comorbid Disease	Smoking	Previous POP surgery
1	29	27.5	2	No	No	No	No
2	32	28.2	4	No	No	Yes	No
3	34	26.6	3	No	No	No	No
4	36	27.9	3	No	No	No	No
5	43	29.4	3	No	No	Yes	Yes
6	40	28.5	3	No	No	No	No
7	36	29.1	3	No	No	No	No
8	38	28.4	6	No	DM	Yes	No

BMI: Body mass index; POP: Pelvic organ prolapse; DM: Diabetes Mellitus.