

Successful pregnancy outcome following laparoscopic sacrohysteropexy for second degree uterine prolapse

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Abstract Uterovaginal prolapse is traditionally treated by vaginal hysterectomy and pelvic floor repair. More recently, women are requesting conservation of the uterus for various reasons including preservation of fertility. This paper documents the case of a 31-year-old woman with second degree uterovaginal prolapse who wished to retain her fertility and therefore underwent a laparoscopic sacrohysteropexy with no complications. She subsequently conceived spontaneously and underwent a normal pregnancy culminating in the delivery of a live term infant by elective Caesarean section. The uterus remained well-supported at 1 year post-delivery. This case adds to the growing body of literature which supports definitive surgical management of uterovaginal prolapse in young women who wish to retain their fertility.

Keywords Sacrohysteropexy · Prolapse · Pregnancy · Laparoscopy · Repair

Introduction

Uterovaginal prolapse is a common condition, which is usually treated by hysterectomy and pelvic floor repair. Several laparoscopic procedures have been described which treat prolapse while preserving the uterus, including laparoscopic uterine suspension [1], laparoscopic

sacral suture hysteropexy [2], laparoscopic suture hysteropexy [3], laparoscopic sacral colpohysteropexy [4] and most recently laparoscopic uterine sling suspension [5]. Laparoscopic uterine suspension has already been shown to be an ineffective treatment for this condition [6].

Our procedure requires minimal dissection and is therefore relatively easy to master as it does not require complicated laparoscopic dissection. Intraoperative complications are likely to be lower due to the lack of dissection around the uterus, cervix and ureters. The occurrence of a successful pregnancy after this procedure, with preservation of the integrity of the prolapse repair 1 year post-delivery favours its use for women with uterovaginal prolapse who wish to retain their fertility.

Case report

A 31-year-old Para 2 was referred to the gynaecology clinic complaining of ‘something coming out of her vagina’ and a dragging feeling in her pelvis. She also complained of dyschezia, constipation and symptoms of stress incontinence. On examination, a diagnosis of second-degree uterovaginal prolapse associated with a marked cystocele and mild rectocele was made (pelvic organ prolapse quantification stage II). Bimanual pelvic examination revealed a normal sized uterus with no adnexal masses. After counseling, the patient opted to have a laparoscopic sacrohysteropexy to preserve her fertility.

In her past obstetric history, she was Para 2+1. Her first child (birthweight 2,778 g) was delivered 10 years earlier at 33 weeks gestation by emergency Caesarean section for malpresentation. Three years later, she had a complete miscarriage at 6 weeks gestation. One year prior to presentation with her prolapse, her second child (birth-

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weight 4,310 g) was born via a normal spontaneous vaginal delivery at 41 weeks.

The patient underwent a laparoscopic sacrohysteropexy via a three-port laparoscopic entry. The uterus was elevated with the aid of a manipulator inserted vaginally. A monofilament knitted polypropylene mesh (Bard^R Mesh, Davol, Cranston, RI, USA) was sutured to the uterosacral ligaments bilaterally, and posterior aspect of the cervix using five interrupted 0 Ethibond sutures (Ethicon, Somerville, NJ, USA). All knots were tied extracorporally. The anterior ligament of the sacral promontory was exposed with a small incision in the overlying peritoneum and the mesh anchored via two 0 Ethibond sutures to this ligament. The mesh was trimmed and the peritoneum was closed over the sacral end of the mesh with a continuous 2/0 Polysorb suture (SynetureTM Norwalk, CT, USA). Routine closure was performed. There were no intraoperative complications.

The patient experienced mild urinary retention post-operatively, which settled with catheterisation overnight on day 1, and she was discharged on the second post-operative day. The patient was seen in the outpatients department 6 weeks later and was well and happy with the outcome of the operation. She was therefore discharged. Five months after her laparoscopic sacrohysteropexy, she was booked in the antenatal clinic at 13 weeks gestation (her last menstrual period being just 7 weeks after the operation).

Her antenatal course was complicated only by symphysis-pubis dysfunction, for which she received physiotherapy and utilised crutches. She began to complain of increasing pain from 34 weeks gestation, which was thought to have been due to tension on the mesh, and she was therefore delivered of a healthy male infant of birthweight 3,140 g at 36+4 weeks gestation by elective lower segment Caesarean section. Intraoperative examination of the mesh confirmed that it was still securely attached at both the uterine and sacral ends; therefore, no revisions were made to the previous operation site. Her postpartum course was uneventful.

She was reviewed in the outpatients department 8 weeks later and her uterus was found to be well elevated with the sacrohysteropexy completely intact. One year post-delivery, the patient remains asymptomatic with no symptoms of prolapse.

Discussion

Several laparoscopic surgical procedures have been described for the treatment of utero-vaginal prolapse with conservation of the uterus. Most of these do not have documented pregnancies subsequent to the procedure.

Of those techniques which have documented pregnancies, Seracchioli et al. [4] described laparoscopic sacral colpohysteropexy, a complex procedure necessitating significant dissection of the sacral promontory down to the cul de sac, the bladder from the cervix and the broad ligament with attachment of mesh anterior and posterior to the uterus, with the mesh being threaded through the broad ligament. Three pregnancies ensued with two term deliveries.

Maher et al. [3] also published a case series of laparoscopic suture hysteropexy, which involved plication of the uterosacral ligaments and reattachment to the cervix. One patient in the series underwent laparotomy for uterine artery laceration during the procedure, and routine cystoscopy is advocated due to the risk of kinking the ureters, requiring a peritoneal releasing incision, as occurred in two patients. In this series, there were two term pregnancies.

Our procedure is unique in that, unlike other reported laparoscopic procedures, there is minimal dissection around the uterus, cervix or ureters, thereby minimising the risk of damage to these structures. The ability for this procedure to withstand pregnancy and be robust enough to maintain elevation of the uterus postpartum underscores the usefulness of this operation in the young woman with uterovaginal prolapse who wishes to retain her fertility.

This case, therefore, is among the first described where conservative laparoscopic surgery for uterine prolapse has been followed by a successful pregnancy outcome, and the first following laparoscopic sacrohysteropexy. In addition to this, it is important to note that the repair remained intact after delivery and remains intact 1 year post-delivery. We recommend delivery by Caesarean section in order to minimise the risk of detachment of the mesh during parturition.

We therefore think that this procedure may be considered as a first line for conservative treatment of uterovaginal prolapse in women in the reproductive age group who wish to retain their capacity for childbearing as it is relatively simple, requiring less dissection, and, hence, is easier to learn and perform without requiring superior training in laparoscopic surgery and carries a lower risk of intra-operative complications, while not having a negative impact on fertility.

This case highlights the option of laparoscopic sacrohysteropexy as a definitive treatment for young women with uterovaginal prolapse who have not completed their family instead of the current trend of conservative, non-surgical management, which may last for years until childbearing is complete. This conservative management with ring pessaries or doing nothing may translate into years of discomfort for young women until they complete their family.

Conflict of interest The corresponding author certifies that there is no actual or potential conflict of interest in relation to this article.

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