Case Report

A Laparoscopic Conservative Surgery Approach to Puerperium Complicated by Uterine Prolapse After Vaginal Delivery: A Case Series

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Abstract

Objective: In fertile women, hysterocele is a rare condition. Genital prolapse can be treated conservatively with laparoscopic hysterosacropexy. It is objected to present a successful case series of laparoscopic hysteropexy for patients with hysterocele after vaginal delivery.

Case report: We presented a successful case series of three patients with III or IV degrees of hysterocele who were treated conservatively with an uncomplicated laparoscopic hysteropexy within a year of delivery. Given our patients' young ages and the fact that they all have infant children at home, we chose a conservative surgery performed laparoscopically due to the lower surgical impact and quicker return to normal life. All surgical procedures were successfully performed, without complications, with a prompt recovery of all women and with a regular subsequent follow-up, without recurrence nowadays.

Conclusion: For young women who have not terminated their desire to bear children, laparoscopic hysterepexy may be a safe and effective surgical option.

Keywords: Hysterocele; Vaginal Prolapse; Laparoscopy; Laparoscopic Hysteropexy; Hysterosacropexy

Introduction

Uterine prolapse is a common gynaecological disorder characterized by progressive stretching and weakening of the genital tract's supporting structures, such as pelvic floor muscles and ligaments. It usually affects postmenopausal women (1).

Women may experience urinary and rectal difficulties if the condition is associated with a mass protruding from the vagina.

Multiparity, advanced maternal age, instrumental delivery, high baby weight at delivery, post-menopausal period, diseases that increase intra-abdominal pressure (chronic obstructive broncopneumopathy), and physical labor have all been linked to an increased risk of peripartum hemorrhage.

All these conditions, in fact, have the potential to compromise the structural integrity of the pelvic floor and endopelvic fascia (1).

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Genital prolapse therapy can be conservative with pelvic exercises, rehabilitation, pessary, or surgical, with different strategies depending on the case. Even though vaginal hysterectomy with apical suspension is the most common surgical method for fertile women, hysteropexy is regarded as a viable alternative option for preserving fertility. It consists of strengthening the uterine supporting system (2-5). Furthermore, a consistent series of patients suggested that subsequent pregnancy had no effect on uterine-sparing apical prolapse repair; thus, this surgical prolapse repair may be considered in young patients even if childbearing was not completed (6).

We decided to report our case series of three fertile patients who underwent laparoscopic hysteropexies for postpartum prolapse at Pesenti Fenaroli Hospital, in Alzano Lombardo, between September 2020 and February 2022. We included a fourth case, even though the patient chose a laparoscopic hysterectomy due to the onset of prolapse a few days after delivery. A few cases of genital prolapse in young patients of fertile age have been reported in the literature. To the best of our knowledge, no cases of uterine inversion have been reported during the postpartum period, when it is more common (7).

We would like to share our successful experience considering that genital prolapse was more common in older patients, so usually it was corrected with vaginal hysterectomy and suspension (8).

Case report

Laparoscopic hysterosacropexy

Case 1: Caucasian woman of 36 years old with familiarity with blood hypertension. She had no disease and no previous surgery. Her BMI was 25 kg/m2 (64 kg, 160 cm). Her obstetrical history reported one uncomplicated pregnancy, vaginally delivered at term with a neonatal weight at delivery of 3422 g, two years ago (2019). Some months after pregnancy, she presented a III hysterocele which we tried to treat with pessary and pelvic rehabilitation, unsuccessfully. Therefore, she underwent a laparoscopic hysteropexy. Specifically, after preparation of the presacral fascia, the vescico-vaginal space, and the large ligament, a "Y" propylene band fixed the cervix to the sacral promontory. The blood loss was 50 ml. The post-surgical course was uncomplicated. After one year, the follow up was regular.

Case 2: A Caucasian woman aged 38. Her personal history was bleak. She has a BMI of 15.2 kg/m2 and is underweight (43 kg, 168 cm). Her obstetrical history revealed three uncomplicated vaginally delivered at term pregnancies: a boy of 3200 g at 41 weeks in 2009, a girl of 2840 g at 41,1 weeks in 2011, and a boy of 3860 g at 41,4 weeks in 2016.She presented with a III hysterecele and moderate stress incontinence one year after her previous pregnancy. Conservative management was attempted, but symptoms persisted. As a result, she had a laparoscopic hysteropexy: after a preparation of the presacral fascia, the vescico-vaginal space, and the large ligament, a "Y" propylene band fixed the cervix to the sacral promontory. The blood loss was 100 ml. An underurethral mini-sling was placed. The post-surgical course was uncomplicated; the post-urination residual was negative. The follow-up was regular after 21 months.

Case 3: 39-year-old Caucasian woman. Her grandmother was diagnosed with breast cancer. Her personal history was negative. She has a normal weight and a BMI of 23.7 kg/m2 (66 kg, 167 cm). Her obstetrical history revealed two uncomplicated vaginally delivered at term pregnancies: a male of 3500 g at 37 weeks in 2015 and a girl of 3600 g at 40 weeks in 2019. She developed a III hysterocele a few months after giving birth, so she had a laparoscopic hysteropexy: after preparing the presacral fascia, the vescico-vaginal space, and the large ligament, a "Y" propylene band was used to secure the cervix to the sacral promontory. The amount of blood lost was minimal. Her recovery from surgery was uneventful. The follow-up was regular after 15 months.

Case of non-conservative surgery

A 37-year-old Caucasian woman. Her family history was negative. She is an employee. She had no disease and had never had surgery before. She is under-weighted (56 kg, 179 cm, BMI 17.5 kg/m2). Her obstetrical history reported two uncomplicated pregnancies with a short interval between vaginal deliveries (02/2020 and 09/2021). The neonatal weights at delivery were 3650 g and 3350 g, respectevely. She visits our Gynecology Department two days after her second delivery for a total genital prolapse (Figure 1). Her only symptom was a protruding vaginal mass but no other symptoms. Both her urinary and rectal function were normal. A pessary of 8.5 was placed. She underwent pelvic rehabilitation and follow-up care. Four months after delivery, a 6.5 pessary was placed. Although the patient was asymptomatic, she requests a laparoscopic hysterectomy due to the persistence of

prolapse after pessary removal. A counseling session was held, and a conservative management strategy was proposed. Given that she no longer desired children the woman opted for a more radical approach. She underwent an uncomplicated laparoscopic subtotal hysterectomy with a cervical suspension. Her course was uneventful.

Figure 1: Total genital prolapse two days after second vaginal delivery

Discussion

Uterine prolapse is a common gynecological disorder, despite the fact that only a few cases of genital prolapse in young, fertile patients have been reported (7). For asymptomatic women, conservative treatment with pelvic rehabilitation and follow-up is frequently sufficient. Pessaries could be used as an alternative in patients who are contraindicated for surgical treatment or while the patient is waiting for surgery. Surgery should be considered in symptomatic patients after a thorough evaluation to identify all anatomical and functional defects that could be corrected surgically (2-5). The preferred treatment for postmenopausal women is hysterectomy with colpopexy. Conservative management is preferred among young people. Different studies, considering the patients' opinion, reported that a larger number of patients preferred uterine preservation (9,10).

Abdominal hysterosacropexy is a safe and effective surgical procedure for the treatment of uterine prolapse in women who desire to preserve the uterus (7).

Meriwether et al. published a recent review in 2019 that compared (11) the abdominal and laparoscopic approaches to hysteropexy. Even if the author was unable to reach a conclusion due to the small number of published studies, they hypothesized that laparoscopy could reduce post-surgical complications while providing good clinical outcomes. These findings appear to be supported by other studies, which found that a laparoscopic or robotic approach was associated with less blood loss, less post-operative pain, and less hospitalization, with the only drawbacks being a higher cost and slightly longer operating times (12-18). No definitive data was reported about the risk of recurrence comparing abdominal and laparoscopic surgery, even though they probably reported similar short-and long-term outcomes (19-20).

Considering the young age of our patients and keeping in mind that they all have infant children at home, we opted for a conservative surgery performed laparoscopically due to the lower surgical impact and the shorter resumption of everyday life. We proposed this approach to the last patient, who had a four-degree hysterocele that developed only a few days after delivery, for the same reasons, but she refused and required hysterectomy.

Only pregnancy and vaginal delivery were reported as risk factors in our case series. They are all fertile, with an average age of 37,5 years. In our cases, the BMI was normal or underweight (a mean of 20,4 kg/m2), and the patient did not work physically. There were no operative vaginal deliveries, and the maximum neonatal weight at birth was 3860 g. (which is a neonate with an adequate weight for gestation-al age). All surgical procedures were successfully performed, without complications, with a prompt recovery of all women and with a regular subsequent follow-up, without recurrence nowadays.

The peculiarities of our cases, to the best of our knowledge, regarded the fertility age of our women, the short interval time between prolapse onset and pregnancy (with a range between two days after delivery and one year), and the successful laparoscopic hyserosacropexy. We would like to share our experience, given the rarity of this situation in young people and the positive clinical outcomes we reported, in the hope that our contribution will help other physicians choose this approach.

Conclusion

To summarize, we believe that laparoscopic hysteroscopic hysteroscacropexy is a safe and effective surgical procedure in young women with normal BMI. Even though we recognized the limitation of our series due to the small number of patients who underwent surgical correction, it is important to consider the rarity of this event quite

shortly after delivery. Future research with a larger number of participants could confirm our findings and help to better define inclusion criteria. Another future study could help to identify risk factors for recurrence and could investigate the feasibility of this approach in patients with higher BMI.

Conflict of Interests

Authors have no conflict of interests.

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