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Case Report

A rare case of vaginal vault prolapses after vaginal hysterectomy in North India: managed via sacrocolpopexy

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ABSTRACT

Vaginal vault prolapse refers to the descent of the upper portion of the vagina (apex or dome) into the vaginal canal or beyond the vaginal introitus, typically following a hysterectomy. This condition is a rare but significant long-term complication, with an incidence ranging from 0.1% to 18.2% after vaginal or abdominal hysterectomy. It may present in isolation or in conjunction with other pelvic organ prolapse disorders, such as cystocele, rectocele, or enterocele. Risk factors include advancing age, multiparity, chronic increased intra-abdominal pressure, and poor pelvic support following surgery. Sacral colpopexy especially via the abdominal approach remains the gold-standard surgical treatment due to its superior anatomical and functional outcomes and lower recurrence rates when compared to vaginal repairs. The procedure involves attachment of the vaginal apex to the sacral promontory using a synthetic mesh, restoring normal vaginal axis and support. Despite its clinical relevance, vaginal vault prolapse with a large enterocele remains underreported in certain regions, particularly in North India. A lack of awareness and underdiagnosis often delay appropriate management, especially in rural populations. We present a case of a 63-year-old woman with a history of vaginal hysterectomy 13 years prior, who presented to our tertiary care center with a symptomatic vaginal vault prolapse associated with a large enterocele. She was successfully managed by open abdominal sacral colpopexy and discharged in stable condition.

Keywords: Case report, Post-hysterectomy, Sacrocolpopexy, Vault prolapse

INTRODUCTION

The International Continence Society defines vaginal vault prolapse as the downward movement of the vaginal cuff to a point that is at least 2 cm lower than the total vaginal length above the hymenal plane. This condition arises when the upper vagina protrudes into or beyond the vaginal opening. The cardinal and uterosacral ligaments together create a supportive network of tissue for the upper vagina and cervix, and following a hysterectomy, this support extends to the vaginal cuff. Clinically, the detachment of the cardinal and uterosacral ligament complexes from the pericervical ring occurs at the ischial spines, providing an anatomical basis for the development of conditions such as uterine descent, vaginal vault prolapse, and enterocele after a hysterectomy. Factors contributing to vaginal vault prolapse include direct trauma during childbirth, multiparity, and aging. Previous surgeries aimed at correcting the pelvic organ support issues may also play a role. Additionally, several other factors have been associated with this condition, such as the mode of delivery (vaginal versus abdominal) for full-term infants, hysterectomy, congenital abnormalities, race, lifestyle choices, and chronic illnesses that elevate intra-abdominal pressure, including chronic constipation, pulmonary diseases, and obesity.[1] Post-hysterectomy vault prolapse occurs with an incidence ranging from ten to forty percent, and this prevalence appears to be similar for both

abdominal and vaginal surgical techniques.[2] Sacrocolpopexy is a surgical procedure that can be performed using either an open abdominal method or minimally invasive techniques for reconstruction. The choice of treatment method is based on the type and severity of pelvic organ prolapse, along with the intensity of symptoms experienced.

CASE REPORT

We present a case of a 63-year-old woman with a vaginal vault prolapse for12 years. The patient had symptoms of a mass coming out of vagina, feeling of pressure and heaviness in the low back and pelvis. The patient was multigravida with an obstetric history of P4L4. The patient had no symptoms of urinary incontinence and constipation. She had a history of vaginal hysterectomy 13 years back. A physical examination was conducted while the patient was positioned on their left side. The patient was instructed to cough incrementally and repeatedly while taking deep breaths to their maximum capacity, followed by holding the breath for three seconds. This technique aimed to more effectively assess the extent and width of the prolapse, which showed the vault prolapse of stage 3 according to pelvic organ prolapse-quantification (POP-Q) classification. Abdominal sacrocolpopexy was recommended. The patient underwent all the routine blood tests, PTI/INR, viral markers, and thyroid profile. The patient was prepared for operation after getting all reports normal, under general anesthesia. There were dense adhesions around the urinary bladder and rectum because of previous surgery. The case was managed bysacrocolpopexy, a type of surgery to repair vaginal vault prolapse was done where the vaginal vault is attached to the sacrum with surgical mesh. Mesh is placed with one strip of mesh fixed to the front wall of vagina and another strip stitched to the back wall. Upper part of both strips is fixed to ligament runs in front of sacrum. The upper one-third of the vagina is lifted and fixed close to its natural position. The patient discharged on the 4th postoperative day and stitches were removed after 10 days. Regular post of follow-up after 1 year unremarkable. The consent has been taken by the patient for writing the report and uploading the pictures.

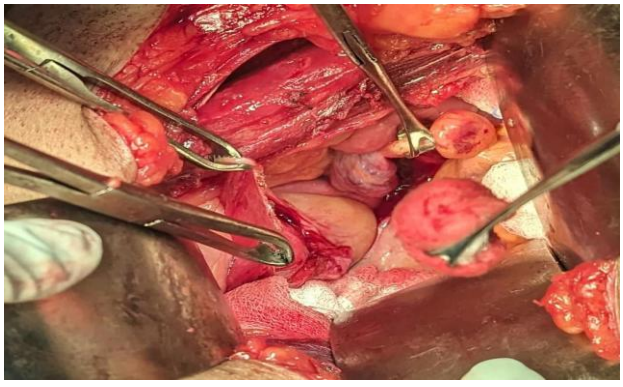

Figure 1: Intraoperative finding during vaginal vault repair.

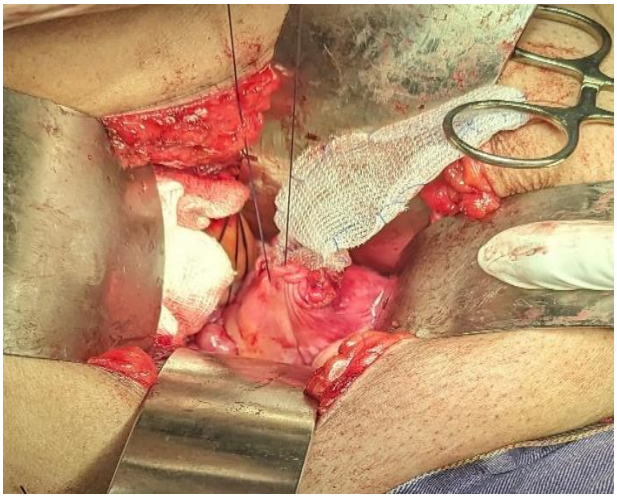

Figure 2: Vaginal vault repair done.

DISCUSSION

Pelvic organ prolapse (POP) is a gynecological condition outlined by the descent of the pelvic organs into the vagina, resulting from weakened ligaments or muscles.[3] The symptoms of pelvic organ prolapse have been described in a joint report by the International Urogynecological Association and the International Continence Society as a deviation from normal sensation, structure, or function that a woman feels in relation to the positioning of her pelvic organs.[4] This condition entails the vaginal wall protruding through the genital hiatus after a hysterectomy, and it can sometimes be linked to bowel and bladder issues. Sacrocolpopexy is the favored surgical option for addressing vaginal vault prolapse, and it can be carried out through abdominal, laparoscopic, or robotic methods. A critical component of the procedure involves suspending the vaginal apex to the sacral promontory, effectively restoring the natural anatomical support typically offered by the uterosacral and cardinal ligaments.[4-6]

POP is a condition that significantly affects the quality of life for many women. Due to the aging population, the number of women affected by POP is projected to rise substantially, from 3.3 million to 4.9 million over the next four decades.[7] Abdominal sacrocolpopexy (ASC) is regarded as the gold standard for the repair of vaginal vault prolapse (VVP) due to its long-lasting effectiveness in terms of both anatomical and functional outcomes.[8] The patient was kept in the modified low lithotomy position, intravenous prophylactic antibiotics, typically cefazolin, are administered, and a Foley catheter is placed. A Pfannenstiel incision is made a few centimeters above the pubic symphysis, followed by an incision through the rectus fascia and separation of the rectus abdominis muscles. The peritoneum is accessed, and the surgical field is exposed with the bowel retracted. The bladder is dissected from the anterior vagina along the vesicovaginal septum, continuing posteriorly to separate the vagina from the rectum along the rectovaginal septum. An instrument is placed in the vagina to expose the retroperitoneal space,

allowing for the identification of the sacral promontory for graft fixation. After selecting and constructing the graft material, it is positioned and fixed in a tension-free manner before closing the peritoneal reflection over the graft. The surgical mesh lifts the pelvic organs back in their place. The procedure can be performed with minimal complications, and the patient was discharged under satisfactory conditions.

Similarly, to the case report by Gentile et al on laparoscopic sacrocolpopexy for vaginal vault prolapse in a patient with severe pelvic adhesions, our case presented with pelvic adhesions that complicated the surgery, necessitating an abdominal approach for management.[9]

In a study by Yadav et al, who described laparoscopic sacrocolpopexy as a treatment option for patients suffering from vaginal vault prolapse following vaginoplasty for Mayer-Rokitansky-Küster-Hauser syndrome, in contrast to our case managed by abdominal sacrocolpopexy for post-hysterectomy vaginal vault prolapsed.[10]

Also, in a systematic review and meta-analysis by Coolen et al, it was found that sacrocolpopexy is best followed by vaginal mesh as a treatment option for vaginal vault prolapsed.[11]

CONCLUSION

In conclusion, abdominal sacrocolpopexy exhibits an effective surgical intervention for the post-hysterectomy vaginal vault prolapse, demonstrating significant improvements in patient outcomes and quality of life. This case report highlights the successful application of this technique, with favorable surgical results and minimal complications. The procedure not only reinstitutes anatomical support but also addresses associated symptoms, leading to an upgrade in patient satisfaction with a reliable solution to regain pelvic floor stability.

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