POSTCOITAL RUPTURE OF VAGINAL VAULT AND PROLAPSE OF BOWEL FOLLOWING HYSTERECTOMY- A CASE REPORT

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Abstract

Hysterectomy is one of the commonest major gynecological surgical procedures performed all over the world. It is performed either for benign or malignant gynecological conditions, through abdominal or vaginal route. Hemorrhage, accidental injury to the adjacent organs, wound dehiscence and sepsis are some of the major complications associated with this procedure.

We report a rare case of a young woman, who presented with post coital rupture of vaginal vault and prolapse of bowel loop, three months following abdominal hysterectomy for benign condition. Her condition was stable at admission. A rent in the vaginal vault, measuring 4 to 5 centimeters was sutured by vaginal route, in two layers under general anesthesia, after reposition of bowel. She had uneventful postoperative period. She was followed up for a period of one year following repair, for re occurrence of this rare complication. Incidence, causative factors and preventive measures for this condition are discussed in the report.

Keywords: Vaginal vault rupture, Post hysterectomy complications, Prolapse of bowel, Evisceration of bowel, Coital injuries

1. Introduction

Rupture of the vaginal vault leading to prolapse of intra peritoneal contents through the defect, is a rare, but potentially dangerous complication of total hysterectomy. The reported incidence of vaginal cuff dehiscence following hysterectomy is approximately 0.24 percent. The incidence of vaginal cuff dehiscence after any type of pelvic surgery is 0.03 percent. It varies with the route of surgery. The rate of vaginal cuff dehiscence is higher after laparoscopic hysterectomy (0.7 to 1.4 percent) compared with abdominal (0.1 to 0.3 percent) or vaginal (0.1 to 0.3 percent) approaches. Delay in recognition or treatment of this condition may result in to peritonitis, gangrene of the bowel and septic or neurogenic shock.

2. Case Report

A thirty eight year old multiparous woman, reported to gynecological outpatient clinic with the presenting complaints of pain in lower abdomen and blood stained discharge since previous night. Pain was dragging in nature and mild in severity. It was not associated with vomiting or diarrhoea. She did not have any urinary symptom. She had blood stained watery discharge per vaginum, more in upright position. Her complaints started after coital activity on the previous night. There was no history of any trauma to the abdomen. She had undergone abdominal hysterectomy in a private hospital for dysfunctional uterine bleeding three months back. There was no intra operative or postoperative complication. The abdominal stitches were removed on seventh post operative day. She received broad spectrum antibiotics in the peri operative period in the form of injection Cefotaxime 1 gram twice daily and Metronidazole 500 mg intravenously thrice daily for seven days. She did not have fever or per vaginal discharge or bleeding after hysterectomy operation. She had one follow up visit after surgery with her gynecologist. She had resumed coital activity six weeks after the surgery. She did not have similar complaints during previous sexual contacts. She was taken to her gynecologist on next day morning, where she was diagnosed to have post coital rupture of the vaginal vault with prolapse of small intestine through the opening in the vault. She was counseled by her gynecologist and referred to this hospital for further management. She was anxious, apprehensive and shy regarding her problem.
She was counseled and was taken into confidence before further investigations. On examination, her vitals were within normal limits and were afebrile. Per abdominal examination revealed mild tenderness in the hypogastric region. Per speculum examination revealed a congested segment of small bowel protruding through the vault (Photograph.1), with peristaltic movement. Slight head low position to the patient, took away the bowel segment from the vault. There was a clear transverse rent of approximately 4 to 5 centimeters in the vault. The rent margins were fibrosed and there was no active bleeding from the edges. There was no other injury to the vagina, bladder or urethra. Per vaginal examination was done and findings were confirmed. Vagina was cleaned with betadine solution and patient was admitted in the ward. Her blood investigations revealed Hemoglobin level of 10 gram percent, total leucocyte count - 7000/deciliter, differential leucocyte count- Polymorphs-67%, Lymphocytes-30%, Basophills-2 % and eosinophills- 1%. Her serological tests for Syphilis, Hepatitis and HIV were non reactive. High vaginal swab culture did not yield growth of any pathogens. She was posted for repair of rent by vaginal route, under general anesthesia with the consent for posted for repair of rent by vaginal route, under general anesthesia, the edges of the rent at the vault did not yield growth of any pathogens. She was posted for repair of rent by vaginal route, under general anesthesia, the edges of the rent at the vault were held with long Allis tissue holding forceps. (Photograph.2). The bowel segment was pushed up manually and by giving head low position to the patient. Pelvic peritoneum and vaginal walls were closed separately in two layers with number 0 vicryl (Polyglycolic acid) suture material. (Photograph.3) Vagina was cleaned by betadine solution. She received broad spectrum antibiotics for seven days following surgery. Patient had uneventful postoperative period and was discharged on fifth post operative day. She was advised abstinence and follow up visit after 15 days. During the follow up visit, per speculum examination revealed complete healing of the rent without evidence of local sepsis. She was further advised to have abstinence for three months and avoidance of forceful coital activity later. Patient did not have recurrence of similar problem during one year of follow up period.

3. Discussion
Abdominal hysterectomy is a commonly performed major surgical procedure in gynecology. Although safe, it is associated with certain complications like primary and secondary hemorrhage, bladder and ureteric injury, wound infection and prolapse of the vaginal vault\(^1\). Vaginal eversion after transabdominal hysterectomy with vault rupture and prolapse of small bowel during sexual intercourse is an extremely rare event, and when it occurs, it is considered as a surgical emergency\(^9,10\). Hyernaux in 1864 reported first case of vaginal eversion of bowel through vaginal vault. Joy et al. identified 12 cases of vaginal cuff eversion resulting from coitus and 9 of these cases were following vaginal hysterectomy\(^10\). Eversion of bowel through vaginal vault appears to be less common in women in forth decade of the life as compared to postmenopausal women and tend to be associated with either sexual or obstetric trauma. In post menopausal women, it is usually associated with atrophic vaginal wall, which has an increased risk of rupture\(^1\). The incidence of vaginal vault rupture after any type of pelvic surgery is 0.03 percent with the reported incidence of cuff dehiscence after a hysterectomy being higher after laparoscopic hysterectomy as compared with abdominal or vaginal hysterectomies\(^1,4\). Vaginal eversion after trans-abdominal hysterectomy is rare in occurrence\(^9\). Review of literature over the years has been associated with vaginal rather than abdominal surgery\(^11\). The risk groups for trans-vaginal bowel eversion include the elderly, postmenopausal women and female patients after vaginal or laparoscopic hysterectomy\(^12\). Ramirez, on a review of the literature on 59 evicerations, highlighted as risk factors: a postmenopausal state, trans-vaginal hysterectomy, and an increase in abdominal pressure\(^13\). There are several factors that may contribute to weakness at the vaginal apex. These are poor surgical technique, post operative wound or cuff infection, wound hematoma, resumption of sexual activity before complete healing, advanced age, previous radiotherapy, chronic steroid administration, trauma, previous vaginal surgery, a vulvulva maneuver or straining during bowel movement\(^11\). Hysterectomy may enhance the risk of rupture as a complication of vaginal trauma, as the vagina is not supported by uterus\(^14\).

In the present case, there was no eversion of large bowel loop in the vagina from the vault. It could be because of the patients supine lying down position throughout the night. In the literature, the cases have been reported.
wherein large bowel loops were seen lying outside the introitus following rupture of the vault\(^{15}\). In such situations, the primary intervention consists of stabilization, fluid therapy, wrapping the bowel with moist saline sponges, early antibiotic therapy, abdominal radiograph to exclude foreign bodies and prompt surgical intervention\(^1\). There is a uniform consensus regarding the need for emergency reduction of prolapsed bowel segment and repair of the rent. The operation can be performed either by a trans-abdominal (open or laparoscopic) route, by a trans-vaginal route or by a combination of the two depending on the patient's condition and bowel viability at the time of treatment\(^{11,16}\). If the evisceration is associated with viable and easily reducible bowel, the trans-vaginal approach consisting of a 2 layer closure of peritoneum and vagina should be considered\(^{16}\). Cases requiring resection of bowel must be dealt via abdominal route\(^{16}\). In the present case, as there was no evisceration of bowel and absence of evidence of peritonitis, the repair was done via vaginal route. The reported mortality rate following vaginal evisceration is 5.6\%. However the incidence of morbidity is higher, when the bowel has become strangulated through vaginal defect\(^{17}\).

4. Conclusion

Prolapse or evisceration of the bowel loop through the vaginal vault is a rare but serious complication of hysterectomy operation. Proper closure of the vault with delayed absorbable suture, prophylactic antibiotics, regular postoperative follow up and observation of abstinence till complete healing of the vault can reduce the incidence and morbidity associated with this condition. It requires aggressive resuscitation and urgent surgical intervention to reduce morbidity and mortality.

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Clinical photographs of the case

1) Loop of bowel at vault
2) Edges of the rent held
3) Closure of the rent in layers