Abstract:
Vaginal vault dehiscence is a rare but potential morbid complication of hysterectomy. The reported incidence of cuff dehiscence after a hysterectomy varies according to the surgical approach. The rate is higher after laparoscopic hysterectomy (0.79 to 1.5 percent) compared with abdominal (0.1 to 0.26 percent) or vaginal hysterectomy (0.08 to 0.25 percent). After dehiscence of the vaginal cuff, abdominal or pelvic contents may be expelled through the vaginal opening. Bowel evisceration can lead to serious sequelae, including peritonitis, bowel injury and necrosis, and sepsis. Prompt surgical and medical intervention are required to prevent such complications and it is a surgical emergency. We describe a case of 40 yrs old female with recent history of abdominal hysterectomy presenting to us with prolapse of a 15-20 cm loop of small intestine. The patient successfully underwent laparotomy with repositioning of the prolapsed intestinal loops into abdominal cavity with mesenteric tear repair and vault closure.

Keyword: hysterectomy, vault dehiscence, intestinal evisceration, vault closure.

INTRODUCTION:
Vaginal cuff dehiscence is a rare complication of total hysterectomy. After removal of the uterus, the vaginal incision (vaginal cuff) or the peritoneal defect is closed. Vaginal cuff dehiscence refers to the separation of the vaginal incision. After dehiscence of the vaginal cuff, abdominal or pelvic contents may be expelled through the vaginal opening which can lead to serious sequelae including peritonitis, bowel injury and necrosis and sepsis. The reported incidence of vaginal cuff dehiscence following hysterectomy is approximately 0.24 percent \(^{(1-3)}\). In a large case series, there were 28 vaginal cuff dehiscences among 11,623 patients (0.24 percent) who underwent total hysterectomy \(^{(3)}\). We report a case of vault dehiscence who presented 2 months following a abdominal hysterectomy.
CASE REPORT:
A 40 year old lady came to our casualty with complaints of mass descending per vaginum for the past 2 hours which was preceded by abdominal pain which was diffuse and noncolicky. There was no history of vomiting, abdominal distension or bleeding per vaginum. She denied sexual intercourse before the prolapse. Patient had passed stools normally earlier in the day. The patient had undergone total abdominal hysterectomy - done elsewhere - 2 months back for dysfunctional uterine bleeding. General examination and vitals were normal. On per abdomen examination, there was no distention, guarding or rigidity. On inspection of external genitalia- about 15-20cm of small intestinal loops prolapsing through the dehisced vaginal vault was seen{ Fig 1-2}. Bowel loops were hyperemic without gangrene and normal peristalsis were noted. Per rectal examination was normal. X ray erect abdomen was normal with no evidence of intestinal perforation or obstruction and USG abdomen was also normal with no dilated loops.

The patient was placed in the trendelenberg position since admission and manual reduction was not attempted since we want to rule out associated mesentery injury and we planned for laparotomy. In the mean time the bowel was irrigated with warm normal saline and wrapped in a moist towel.

Patient was immediately taken up for surgery and underwent laparotomy and was found that the ileum has prolapsed through the dehiscence. There were no gangrenous changes in the intestinal loops. The prolapsed intestinal loops-ileum- was repositioned into the abdominal cavity and the entire mesentry was carefully checked for any tear. There was a small mesenteric tear of about 2 cm which was sutured. The vaginal vault was found to have given away totally which was closed with 1 vicryl by interrupted sutures. The suture was placed 1.5 cm away from the cuff edge and full thickness of the cuff was included. Abdomen was closed with a drain. The postoperative period was uneventful and the patient was discharged on the ninth post operative day.
However in the post operative period, on questioning she accepted of having sexual intercourse 1 hour before the prolapse. At the time of discharge she was advised to avoid sexual intercourse for the next 3 months. The vault was normal on discharge (Fig-3). She was on regular follow-up and so far she has been normal.

FIG-3 DISCUSSION:
The reported incidence of cuff dehiscence after a hysterectomy varies according to surgical approach. The rate is higher after laparoscopic hysterectomy (0.79 to 1.5 percent) compared with abdominal (0.1 to 0.26 percent) or vaginal (0.08 to 0.25 percent) [1-3, 5]. Vaginal dehiscence is rare, thus it is difficult to establish predisposing factors. Prior studies have suggested different risk factors for vaginal dehiscence among postmenopausal women (eg, pelvic prolapse) versus premenopausal women (eg, coitus) [1,2,4,6,7]. Although the risk factor profile seemingly varies with menopausal status, a true difference is difficult to determine because the menopausal status of women undergoing hysterectomy is not consistently reported in most studies.

In general cuff dehiscence is associated with risk factors for poor wound healing, excessive pressure at the vaginal incision site, or pelvic floor defects; however, some dehiscences occur spontaneously. Potential risk factors associated with vaginal cuff dehiscence include: Total laparoscopic hysterectomy, Robotic-assisted total laparoscopic hysterectomy, Vaginal cuff cellulitis or abscess, Vaginal trauma (eg, intercourse, instrumentation), Cigarette smoking, Pelvic organ prolapse, Vaginal hematoma, Pelvic radiation therapy, Postmenopausal status, chronic conditions that increase intraabdominal pressure (eg, obesity, cough, constipation) and impaired wound healing (eg, malnutrition, anemia, diabetes, immunosuppression). The most common presenting symptoms associated with vaginal dehiscence are Pelvic pain (60 - 100%), Vaginal bleeding (30 - 60%), Vaginal discharge or gush of fluid (30%) and vaginal pressure or mass 30 (%). For premenopausal women, dehiscence occurs early in the postoperative course (two to five months) and the most common trigger is first postoperative coitus as in our case. In contrast, in postmenopausal women, vaginal cuff rupture is commonly associated with pelvic organ prolapse and may occur months to years after surgery. One hypothesis is that later rupture results from progressive weakening of the vaginal scar [7].

Evisceration of an organ through the vaginal cuff separation is reported in 60 percent of dehiscence patients. Bowel is the organ that is most likely to present through the separated vaginal cuff; the distal ileum is the most common bowel segment as in our case. Other reported structures include: omentum, fallopian tube, appendix, and bowel epiploica. Bowel evisceration may lead to bowel injury, including perforation or incarceration with subsequent strangulation, necrosis, peritonitis, or sepsis.

PREVENTION:
Preoperative issues
Patient and procedure selection — High-risk women (eg, those with pelvic organ prolapse, chronic cough, immunocompromised state, cigarette smokers) should be identified and be advised to maintain prolonged pelvic rest after a total hysterectomy, or undergo a supracervical hysterectomy if cervical removal is not required for treatment. Preoperative preparation — To minimize the risk of cuff cellulitis or abscess, preoperative testing can include evaluation and treatment for bacterial vaginosis or trichomonas vaginalis and cervical cultures for gonorrhea and Chlamydia. Perioperative antibiotic prophylaxis for hysterectomy patients also minimizes the risk of vaginal cuff infections. Technique: Closure of the cuff: Use of delayed absorbable monofilament suture (eg, polydioxanone [PDSII™]) rather than catgut. The suture must be placed at least 1 cm away from the vaginal cuff edge. The closure should be full thickness, including the vaginal epithelium, vaginal musculature and the pubocervical fascial ring. Postoperative period: The scar tissue attains about 40 percent of its final strength in the first postoperative month and strength continues to increase for as long as a year after injury. Therefore, after total hysterectomy, women should defer vaginal intercourse and avoid placing objects into the vagina and heavy lifting (>13 pounds of weight from the floor) for at least four weeks. Patients at high risk of dehiscence should avoid these activities for an extended period (eg, 12 weeks).

SUMMARY:
Vaginal cuff dehiscence is the separation of the vaginal incision after total hysterectomy. Vaginal cuff dehiscence is rare. Major risk factors are: total laparoscopic hysterectomy, pelvic organ prolapse, vaginal cuff infection, vaginal trauma (eg, coitus), and cigarette smoking. Pelvic pain and vaginal bleeding are the most common clinical symptoms. Evisceration of the bowel or other structures is also common. Bowel evisceration can lead to bowel perforation and subsequent peritonitis and sepsis. Vaginal cuff dehiscence is diagnosed by physical examination. Evisceration and hemodynamic instability must be addressed promptly. Repair of a dehiscence without evisceration can be performed using a vaginal or abdominal approach; however, injury or incarceration of bowel or a large pelvic abscess require abdominal exploration. Preventive strategies include: subtotal hysterectomy, optimizing vaginal cuff tissue quality and security of closure, and avoidance of vaginal intercourse or other vaginal insertions for at least four weeks.

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