ORIGINAL RESEARCH PAPER
Volume - 11 | Issue - 12 | December - 2022 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

# VAULT DEHISCENCE – A RARE GYNECOLOGICAL EMERGENCY

Obsterics & Gynaecology

**Raj Lakshmi Nalam*** Department of Obsterics and Gynaecology, Sri Sathya Sai General Hospital, Puttaparthi, India*Corresponding Author

**Uppalury Uma** Department of Emergency Medicine, Sri Sathya Sai General Hospital, Puttaparthi, India

**Disha Bhojwani** Department of Obsterics and Gynaecology, Sri Sathya Sai General Hospital, Puttaparthi, India

## ABSTRACT

**Background:** VCD is a rare complication following hysterectomy. Significance of this condition lies with the potential of evisceration of abdominal and pelvic contents resulting in additional morbidity. Case presentation: A 57 years old multiparous female presented to casuality with severe pain abdomen and vaginal discharge. With history of undergoing Total Laparoscopic Hysterectomy 6 months back. On examination small intestines were in vagina, with 2 cms defect in vault. Patient was stabilized and the defect was closed vaginally. **Conclusion:** VCD is a rare complication that should be kept in mind when patient presents with sudden onset lower abdominal or pelvic pain along with vaginal discharge following hysterectomy. In absence of any bowel pathology, vaginal closure is a safe treatment option.

## KEYWORDS

Vaginal Cuff Dehiscence, cuff separation, cuff rupture, transvaginal bowel evisceration, hysterectomy complications

## INTODUCTION:

Hysterectomy is recognized as one of the most frequently performed major gynecological surgery (1). VCD is a rare complication following hysterectomy. Significance, of this condition lies in the fact that any delay in recognition and treatment may lead to significant patient morbidity, from evisceration. Studies have shown that incidence of VCD is higher with laparoscopic and robotic hysterectomies (2,3). With more number of minimally invasive hysterectomies being performed the incidence of VCD is likely to increase. As there is lack of robust data regarding the repair of VCD , the mode of repair should be individualized.

## CASE REPORT:

A 57 years old multiparous female presented to casualty with severe pain lower abdomen, with feeling of giving away sensation associated with vaginal discharge. She gave history of pain abdomen a day before as well with less intensity which subsided on taking pain medications over the counter. Patient underwent TLH 6 months back with uneventful recovery from the surgery. On examination, her vital were stable abdomen was soft. On speculum examination intestinal loops were seen in vagina (fig-1). Intestines looked healthy without features of gangrene. Vaginal examination revealed 2 cms defect in vault. Vault defect was closed with vicryl under spinal anesthesia (fig-2). Post operative period was uneventful and patient was discharged on 6th post operative day. Patient is in follow up and now over two years post surgery pt has been doing well. When patient presents with abdominal pain, mass descending per vaginum, and sudden gush of watery vaginal discharge (4) post hysterectomy, VCD should be kept in mind. There is no consensus regarding the mode of repair of VCD and, the choice for the mode of repair should be tailored to the patient's presentation, bowel viability, surgeon's judgment and expertise(5).

## DISCUSSION:

VCD is a rare complication following hysterectomy. The incidence varies from 0.31% (3) to 4.1% (4). VCD is also known as “cuff separation” or “cuff rupture”. In complete thickness cuff dehiscence, all the layers of vaginal cuff give way whereas, in partial thickness cuff dehiscence the vaginal mucosa is disrupted, but the muscularis and peritoneum are intact.

Significance of this condition lies with the potential of evisceration and additional morbidity (6). In one of the studies the rate of evisceration has been reported to be 1.17% (4). The commonest organ to eviscerate is small bowel, particularly terminal ileum (7), like in our case. It can result in serious sequelae such as incarceration, strangulation, peritonitis, bowel injury, and sepsis, thus, increasing patient's morbidity.

Vaginal bleeding is the most common symptom that Patients present with (8), other presenting symptoms are abdominal pain, mass descending per vaginum, and sudden gush of watery vaginal discharge (4). When patient presents with any of these symptoms following hysterectomy, VCD must be kept in mind.

Various risk factors involved in VCD can be divided into surgery related factors and patient related factors.

Studies have reported rates of 1.1- 4.9%(2,9) for cuff dehiscence after TLH and 3% after robotic hysterectomy, compared with the rates of 0.29% and 0.12% after TVH and TAH, respectively(2). Various reasons suggested for increased VCD rates in minimally invasive surgeries are use of electrocautery for colpotomy, more magnified visualization of the surgical field leading to inadvertent smaller bites of vault being sutured and different suturing techniques being used.

Specific surgical techniques that have been suggested to decrease the risk of cuff dehiscence after TLH or robotic hysterectomy include (1) the use of monopolar current on cutting mode (a continuous, low-voltage current that leads to less thermal spread compared with coagulation mode) to incise the cuff, (2) the achievement of cuff haemostasis with sutures rather than electrocoagulation, (3) the use of a 2-layer cuff closure with polydioxanone suture that ensures adequate tissue edges when the vaginal cuff is sutured closed, and (4) bidirectional barbed suture for cuff closure.(2, 10)

Although RCTs have compared outcomes of different hysterectomy approaches, these studies were not large enough to determine a clinically meaningful difference in cuff dehiscence, given the rarity of this outcome. In the absence of such RCTs, the limited data available from case series and cohort studies suggest the possibility of a higher incidence of vaginal dehiscence after TLH or robotic hysterectomy than after TAH or TVH.

Patient related factors are increasing age, increased number of vaginal surgeries, vaginal atrophy, factors that are associated with poor wound healing (including malignancy, chronic steroid use, malnutrition, tissue radiation), increased Valsalva testing (chronic cough), and postoperative vaginal cuff infection or hematoma (11).

Immediate recognition and treatment is important for best outcomes. Intravenous fluid hydration and broad-spectrum antibiotics should be started immediately.

If there is associated evisceration as well then, protruding contents must be carefully inspected for injury. Prolapsed material if undamaged, should be gently replaced through the cuff. In our patient with elevation of the foot end of cot, the contents spontaneously got replaced. A moist sterile towel can also be placed on prolapsed bowel or omentum, if reduction is not possible. Any necrotic or devascularized bowel or vagina, if present, should be resected. The vaginal cuff has to be closed. Consensus regarding mode of repair of

VCD is not standardized. It can be repaired vaginally, abdominally, laparoscopic ally, or through a combined approach. The vaginal approach is minimally invasive but precludes observation of the entire abdominal cavity and irrigation of probable abscess (6).

There is no consensus with regard to method of closure. In a meta-analysis, different techniques of cuff closure like single layer versus double layer, usage of barbed versus non-barbed sutures and reinforced sutures have been analyzed, this study found no difference in the outcome between various techniques (12). In our patient, we chose to close vault vaginally with intermittent sutures taken full thickness with Vicryl (Polyglactin).

As there is no consensus regarding the mode of repair of VCD and, the choice for the mode of repair should be tailored to the patient's presentation, bowel viability, surgeon's judgment and expertise (5).

## CONCLUSION:

TLH and robotics are becoming increasingly common and hence these complications need to be discussed with the patient. We need to identify the patients related factors and the surgical techniques to decrease the risk of cuff dehiscence. More research is necessary to identify modifiable risk factors for vaginal cuff dehiscence and methods for its prevention.

Further studies assessing the safety and effectiveness of the various management interventions are required.

**Fig-1 (loop of intestine seen through the opened vault)**

**Fig-2 (defect in vault closed with Vicryl)**

**ABBREVIATIONS:** VCD – Vaginal Cuff Dehiscence, TAH - Total Abdominal Hysterectomy, TVH - Total Vaginal Hysterectomy, TLH – Total Laparoscopic Hysterectomy, RCTs – Randomized Control Trials.

## REFERENCES:


1) Garry R. Health economics of hysterectomy. Best Pract Res Clin Obstet Gynaecol 2005;19:451-65.
2) Hur HC, Guido RS, Mansuria SM, Hacker MR, Sanfilippo JS, Lee TT. Incidence and patient characteristics of vaginal cuff dehiscence after different modes of hysterectomies. J Minim Invasive Gynecol 2007;14:311-7.
3) Stefano Uccella, , Marcello Ceccaroni, Antonella Cromi, Mario Malzoni, Roberto Berretta, Pierandrea De Iaco, Giovanni Roviglione, Giorgio Bogani, Luca Minelli, Fabio Ghezzi. Vaginal cuff dehiscence in a series of 12,398 hysterectomies: effect of different types of colpotomy and vaginal closure. Obstet Gynecol. 2012 Sep;120(3):516-23.
4) Kho RM, Akl MN, Cornella JL, Magtibay PM, Wechter ME, Magrina JF. Incidence and characteristics of patients with vaginal cuff dehiscence after robotic procedures. Obstet Gynecol. 2009;114:231–235.
5) Ajay Agrawal, Kuan-Gen Huang and Marie Christine Valerie Mendoza. Emergency laparoscopic repair of coitus induced vaginal cuff dehiscence: a case report. Journal of Medical Case Reports. 2020 March; 14(1):40
6) Camran Nezhat et al. Vaginal Cuff Dehiscence and Evisceration A Review. Obstetrics & Gynecology: October 2018 - Volume 132 - Issue 4 - p 972-985
7) Rakesh Sinha et al. Vaginal vault dehiscence with evisceration after total laparoscopic hysterectomy.Gynecol Surg 8,2011, 175-76.
8) Warren S W Chan 1 , Karen K Y Kong, Yogesh A Nikam, Harry Merkur . Vaginal vault dehiscence after laparoscopic hysterectomy over a nine-year period at Sydney West Advanced Pelvic Surgery Unit - our experiences and current understanding of vaginal vault dehiscence.. Aust N Z J Obstet Gynaecol. 2012 Apr;52(2):121-7
9) Nick AM, Lange J, Frumovitz M, et al. Rate of vaginal cuff separation following laparoscopic or robotic hysterectomy. Gynecol Oncol 2011; 120:47-51.
10) Siedhoff MT, Yunker AC, Steege JF. Decreased incidence of vaginal cuff dehiscence after laparoscopic closure with bidirectional barbed suture. J Minim Invasive Gynecol 2011; 18:218-23.
11) Beth Cronin, V. W. Sung, K. A. Matteson. Vaginal cuff dehiscence: risk factors and management. The American Journal of Obstetrics and Gynecology. Apr 2012;Vol 206 (4): pp 284-88
12) Stefano Uccella, Pier Carlo Zorzato, Rosanne M Kho. Incidence and Prevention of Vaginal Cuff Dehiscence after Laparoscopic and Robotic Hysterectomy: A Systematic Review and Meta-analysis . J Minim Invasive Gynecol , 2021 Mar;28(3):710-720.