Vaginal hysterectomy on scarred uterus

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Abstract

Objective. *This presentation is based on a study developed in Central Military Hospital.* ***Methods.*** *There have been analised 50 cases of vaginal hysterectomy which followed a cesarean delivery which 10 presented also a history of a vaginal delivery, 9 patients had a history of two or more cesarean sections. We have compared the percentage of bladder injuries to the simple vaginal hysterectomies (wich had no history of cesarean section). There have been also analyzed: the operative time, the blood loss, the admision time, other complications.* ***Results.*** *There haven't been found significant differences between the two groups.* ***Conclusions.*** *In this study women who had a history of previous cesarean delivery were not at higher risk for greater hemoglobin loss, longer hospital stay, more prolonged operative time, or significantly more perioperative complications when undergoing vaginal hysterectomy than were those women who had no history of previous cesarean delivery.*

Keywords: *cesarean section, vaginal hysterectomy, cistoraphy, vesicovaginal disection*

Introduction

Vaginal hysterectomy is part of the minimal invasive surgery techniques involved in the treatment of the uterine fibroma (non-conservative interventions).

- **Vaginal hysterectomy** - during wich all operative steps are achieved through vagina.
- **Laparoscopic hysterectomy** - in wich the approach is only laparoscopic (fragmentation, extracting the uterus, vaginal suture).
- **Vaginal assisted laparoscopic hysterectomy** - most operative steps are accomplished laparoscopically (adnexal detachment, uterine pedicles clamping, anterior and posterior disection) - the uterus is extracted through the vaginal rute. The vaginal approach is solving the difficult steps of laparoscopic hysterectomy.
- **Laparoscopically assisted vaginal hysterectomy** - most operative steps are accomplished by vaginal route (uterine clamping, uterine anterior and posterior disection), adnexal pedicles ligation, adhesiolisis, final hemostasis control are achived laparoscopically. The laparoscopic approach solves the difficult step of vaginal hysterectomy[(1)].

Methods

This presentation is based on a study developed in the Central Military Hospital where have been analised 50 cases of vaginal hysterectomy which followed a cesarean delivery which 10 presented also a history of a vaginal delivery, 9 patients had a history of two or more cesarean sections. We have compared the percentage of bladder injuries to the simple vaginal hysterectomies (wich had no history of cesarean section).

There have been also analised: the operative time, the blood loss, the admision time, other complications. There haven't been found significant differences between the two groups.

Received: *February 05, 2013*
Revised: *March 21, 2013*
Accepted: *April 16, 2013*

Classic indications of vaginal hysterectomy include[(2)]:

Benign pathology of the uterus

- disfunctional uterine bleeding
- cronic pelvic pain
- uterin simptomatic fibroma
- recurring postmenopausal vaginal bleeding
- sever cervical displasia
- endometrial hyperplasia

Malignant pathology

- Cervical cancer - Stage 0
- Endometrial cancer – stage 0

Contraindications

Several clinical conditions are classically being accepted as contraindications regarding the vaginal approach:

- nulliparity
- surgical pelvic history
- history of cesarean delivery
- large volum uterus
- pelvic endometriosis.

Results

Our gathered data suggest that a large uterus, nulliparity, previous cesarean delivery, and pelvic laparotomy can rarely constitute contraindications to vaginal hysterectomy. It is more important being considered the vaginal compliance (atrophic cervix, inadequate vaginal fornices, vaginal stenosis narrow subpubic arch) and the surgeon's technical skilles (Figures 1, 2 and 3).

A brief presentation of the surgical anatomy:

- THE INFERIOR PEDICLE
  - ✓ vezicocervical pillar
  - ✓ uterosacral ligament
- THE MIDDLE PEDICLE
  - ✓ cardinal ligament
  - ✓ uterine artery pedicle
- THE SUPERIOR PEDICLE
  - ✓ the round ligament
  - ✓ fallopian tube
  - ✓ uterine-adnexial pedicle

The main operative steps are:

1. Paracervical hidrodisection
2. Anterior and posterior Colpotomy
3. Vezicouterine and rectouterine dissection

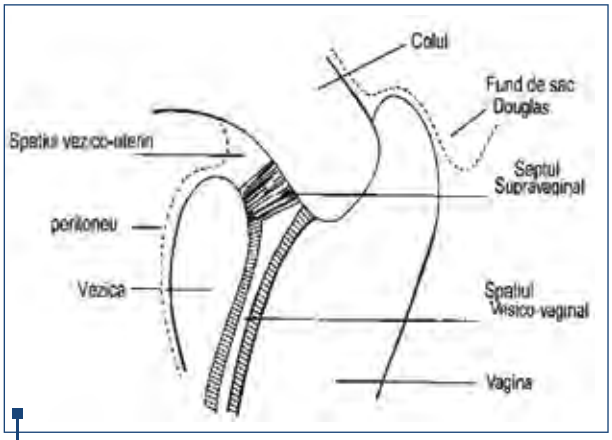

Figure 1. Anterior clivage space

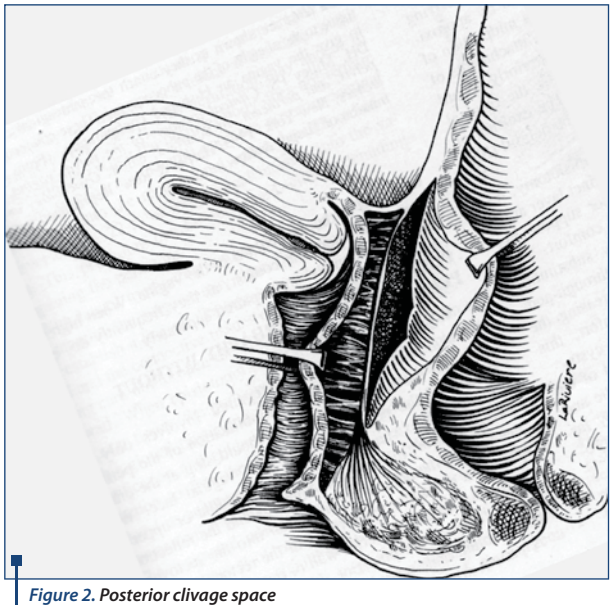

Figure 2. Posterior clivage space

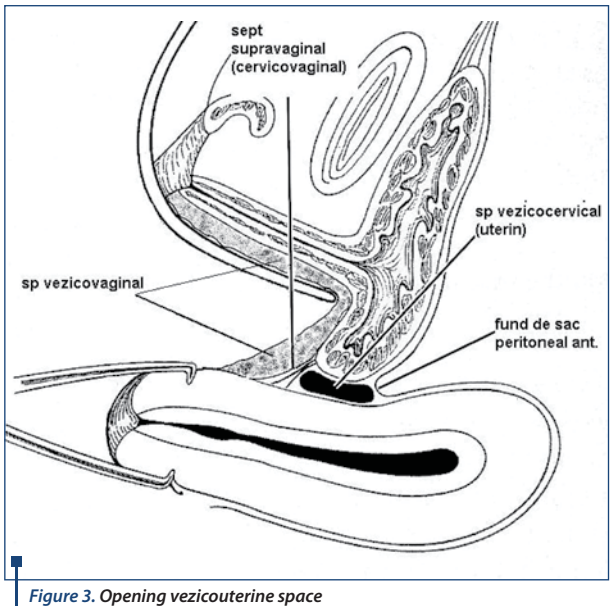

Figure 3. Opening vezicouterine space

4. Highlighting and entering the anterior and posterior cul-de-sac

5. Vascular and connective tissue disconnection of the uterus (inferior and middle pedicles)

6. Extracting the uterus by clamping and cutting the superior uterine pedicles together with uterus fragmenting techniques

7. Adnexectomy (clamping and cutting the lomboovarian ligament)

8. Suturing the anterior and posterior detachment spaces

9. Suture of the vaginal vault.

Vaginal hysterectomy technique[3]:

- Anterior colpotomy incision, sharp dissection of pubocervical fascia.
- Bladder is reflected cephalad using Breisky Navratil retractor.
- Vesicouterine peritoneal fold is opened.
- Difficulty in identifying the uterovesical peritoneum we meet after previous cesarean section.
- Peritoneum will be opened laterally, and extended in the midline, or alternatively a posterior colpectomy can be made.
- Using a a Tirre-ball clamps we deliver the uterine corpus. If the uterus is too large we made a myomectomy, or wedge morcelation.
- Vagina is then sutured with intrerupted sutures.

With the uterus under constant downward traction using a tenaculum placed on the cervix, an incision is performed around the cervix at the border of the vaginal rugae. The incision penetrates the entire thickness of the vaginal wall and exposes the supravaginal septum, which is incised with scissors held so that the handles are below the horizontal axis. The vesicocervical adventitial space can now be entered and released by spreading the scissors. A retractor is placed to allow visual inspection. If the patient has never had a cesarean delivery, the opening of the vesicocervical space is continued until the peritoneum can be seen. It is then grasped and pulled so that it can be entered with an incision.

A patient who previously had a cesarean delivery will present a scar on the uterus at the lower border of the vesicocervical space. This scar reduces the size of the vesicocervical space; the bladder must be elevated using retractor, so that a careful dissection can be performed before the remaining vesicocervical space is being opened. Having the area completely opened, the peritoneum is now exposed and can be entered. In case of a difficult visualization of the anterior peritoneal, entering the peritoneum can be postponed until additional steps of the operation enable it to be easily identified.

Considering a previous cesarean section the dissection of this space has to be performed using instruments when cutting the upper vaginal ligament and when blunt dissecting the urinary bladder off the inferior uterine segment (in cases without post surgery history the manouvre can be performed digitaly). Dissection is being performed gradually at sight by lifting the bladder using a retractor, and being sure that the tip of the scissors stays

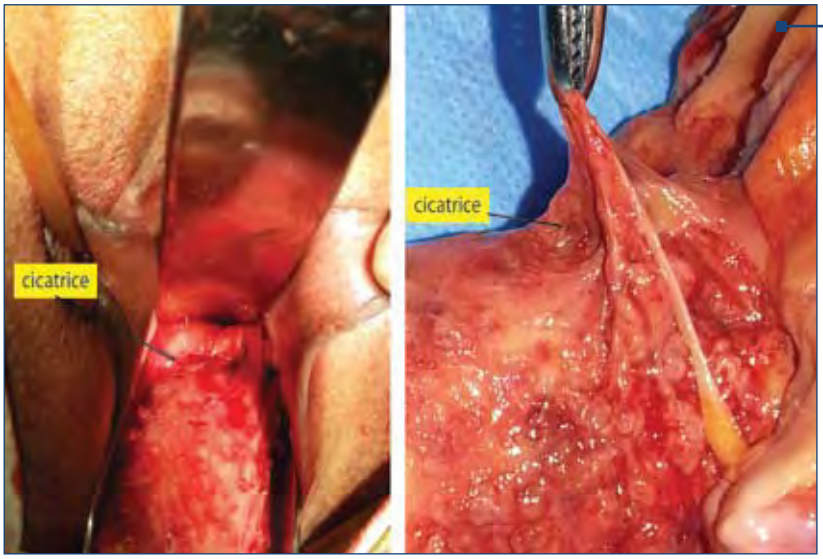

Figure 4. The scar after cesarean incision

Table 1 Parameters for patients with cesarean delivery in comparison with no cesarean delivery

	No cesarean delivery	With cesarean delivery
Procedure time	30 minutes (20-45)	35 minutes (25-45)
Estimated blood loss	150 ml	150 ml
Uterine weight (g)	180 g (180-280 g)	150 g (100-200 g)
Spitalization (day)	2 days	2 days

in permanent contact with the uterine surface after passing the scar region we can try a digital blunt dissection without using much force in order to highlight the anterior peritoneal space which will have to be opened (Figure 4 and Table 1).

Opening the anterior peritoneal cul-de-sac can be postponed until additional operative steps are being performed (sometimes coming across the former mioraphy stitches is the proof that the difficult dissecting area has been left behind). It is necessary to check the bladder integrity using methylene blue[4].

The other operation steps are common showing some characteristics:

- a narrow working space in case of patients having no history of vaginal delivery (this can prove to be reason to abandon the vaginal approach);
- the presence of postoperative adhesions;
- special techniques used to extract the uterus (hemisections, corring);
- difficulty in dissecting the vezico-uterine space (folley catheter should stay in place for 2-3 days).

Intraoperative complications:

- bleeding while blunt dissecting the anterior space (2 cases);
- urinary bladder lesions - double layer cystoraphy (2 cases);
- rectal lesions;
- abandon of the vaginal approach because of an ovarian tumor (1 case).

Discussion

We evaluated the operative time, the blood loss, intra- and post-operative complications, hospitalization time.

In this study women who had a history of previous cesarean delivery were not at higher risk for greater hemoglobin loss, longer hospital stay, more prolonged operative time, or significantly more perioperative complications when undergoing vaginal hysterectomy than were those women who had no history of previous cesarean delivery[4].

Conclusions

In this study women who had a history of previous cesarean delivery were not at higher risk for greater hemoglobin loss, longer hospital stay, more prolonged operative time, or significantly more perioperative complications when undergoing vaginal hysterectomy than were those women who had no history of previous cesarean delivery.

Previous vaginal delivery lowered the risk of complications from vaginal hysterectomy. ■

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