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The study of a new surgical technique in management of placenta previa accreta

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Overview

- PPA is a severe complication of pregnancy, when the placenta that had invaded through the myometrium to the serosa, sometimes into adjacent organs

Diagnosis

- PPA could be diagnosed before labour by ultrasound
- Nguyễn Liên Phương and Trần Danh Cường (2015)
  - 100% cases have previous C-section,
  - Ultrasound can diagnose 91.4% cases before surgery~ Miller (90%)

Features of PPA

- The incidence of PPA has paralleled the increase in C-section
- ~ 5% cases has PPA.
- Lead to surgical complications, maternal mortality
- The most common cause of obstetric hysterectomy

Features of PPA surgery

- Severe complication of pregnancy
- Massive obstetric hemorrhage and life threatening
- 90% cases need blood transfusion, and 40% cases need more than 10 units of pack red blood cells
- High risk of urinary tract injury

Hysterectomy in PPA: Challenge

- There are many researches about other techniques of PPA cesarean hysterectomy

- We had clinical trial and built a surgical protocol: " Retrograde cesarean partial hysterectomy in PPA"

Objects and Methods

- ***Objects*** : 8 patients
  - From 11/2016 to 2/2017
  - Was diagnosed with PPA before delivery
  - Using "Retrograde cesarean partial hysterectomy in PPA"
  - ***Methods: Clinical trials without control group***

Surgical Procedure

1.	**General anesthesia**
2.	Removing of the previous scar in midline or Pfannensitel skin incision, then enter the abdominal cavity
3.	Opening of the body uterus in longitudinal section, leaving the placenta in situ
4.	Haemostasis of the incision
5.	Cutting of the round ligaments, the ovarian ligaments
6.	Exposure of the posterior uterine wall, then detect the cervix and the isthmus
7.	Colpotomy from the posterior uterine until reaching to the cervical cannal
8.	Using of clamps ,then cutting around the cervix.

Surgical Procedure

9.	**Pull the cervix upward and backward**
10.	Blunt dissection (Finger) open broad ligaments in both side to access and then cut the uterine artery
11.	Sharp-Blunt dissection (Finger) of the vesico – uterine space
12.	Separating of the bladder from the anterior uterine wall
13.	Closure of the cervical incision
14.	Checking and Repair of the bladder injury, if available
15.	Closure of the abdominal wall.

Surgical results

- From 11/2016 - 2/2017: 8 PPA patients were performed the Retrograde partial hysterectomy.
- Average age: 35 years old (24-37)
- Average gestational age: 37 wks (34-38)
- Hospitalization: 5 days (4-7)
- Surgical timing: 72 mins (40-150)

Surgical results

- 8/8 cases had blood transfusion, 1050±320 ml (1-4 units of pack red blood cell)
- 0/8 case had perioperative complication
- 2/8 cases had to repair bladder injury
- 0/8 case had ureter injury
- 0/8 case had to re-operate, or re-hospitalize
- 1/8: A 34 week – neonate need intensive care

Discussion

- Advantage
  - Blood loss control
  - Totally dissect the bladder from the uterus
  - Reduce the risk of urinary system injury

Blood loss control

Abdominal incision

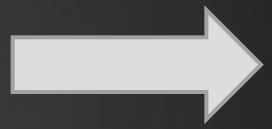
- We often remove the scar enter the abdominal cavity.
- Upper incision of abdominal fascia
- Lower midline incision:
  - Reduce blood lost
  - Enlarge the operation field

Incision of the uterus

- From 2013: open the uterus with longitudinal fundal incision
- Leaving the placenta in situ
- Hysterectomy in patient who don't desire future fertility
- Planned management: reduce blood loss, average 4-unit blood transfusion.

Blood supply in PPA

- vessels under cervical-vagina peritoneum
- Auxiliary vessels from arteria iliaca interna
- Cervical artery and arteria vesicalis interior



- Lower part of uterine, cervix and upper part of vagina

Retrograde hysterectomy

- 1964: Used in gyneacological surgeries (Bony).
- Applications: pelvic tumors cause anatomical deformation and aggressive lesions
  - Uterine fibroids in mesometrium
  - Ovarian cancer with pelvic metastasis
- AE Selman, Sato Hiroshi (2016) : Retrograde hysterectomy in PPA approached through posterior fornix

Retrograde partial hysterectomy

- Cutting of round ligaments and ovarian ligaments then dissect bilateral broad ligaments to lower section of uterine.
- Exposing of posterior uterine wall, detect isthmus
- Retrograde partial hysterectomy 1 cm lower isthmus (lower placenta)
- Transverse incision to cervical cannal.
- Using clamp around cervix (with cervical vagina artery)
- Open a tunnel between bladder and anterior cervical wall

8/8 have blood transfusion, average: 1050±320 ml (1-4 units of pack red blood cell).

Other methods of hemostasis

- arteria hypogastrica embolization:
  - Not effective in case of bleeding due to PPA
  - Required skillful surgeon, extending operation time and increasing risk of complications
- Block uterine artery: lack of evidence to recommend by ACOG, risk of infection, thrombosis and necrosis.

Maximizing bladder dissection

Bladder dissection

- Early bladder dissection → bleeding, blood transfusion
- Bleeding caused difficulties for dissection → high risk of bladder injury (trigon)
- Control of bleeding before bladder dissection

Bladder dissection

- Peritoneum of posterior bladder and cervix easily dissect
- Create a tunnel by scissors.
- Colpotomy
- Retrograde bladder dissection

2/8 cases have repair of bladder

Reduce risk of urinary tract injury

Bladder injury

- invaded placenta → bladder injury
- Retrograde surgery helps reduce risk of trigon injury
- → suture bladder (2 layers)
- Urine drainage in 5 days
- No vesicovafinal fistula

Ureter injury

- AE Selman, Sato Hiroshi recorded the risk of ureter injury in retrograde hysterectomy.
- Before operation: check the ureter
- PPA operation caused severe bleeding, partial hysterectomy help reduce risk of ureter injury

Prevention of ureter injury

- French and American authors used JJ sond before operation
  - Easier to detect ureter
  - Pointing for recover ureter
- Ureter injury in PPA operation cannot evaluate correctly due to edema.
- 0/8 ureter injury

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Conclusion

- Retrograde hysterectomy controls blood loss in PPA
- Promising operation
- Advantage
  - Control blood loss
  - Maximizing bladder dissection
  - Reduce urinary tract injury.

Thank you for your attention