



Failed Conservative Management to Preserve Fertility in Placenta Accreta Spectrum at dr. Hasan Sadikin Hospital in 2022-2023

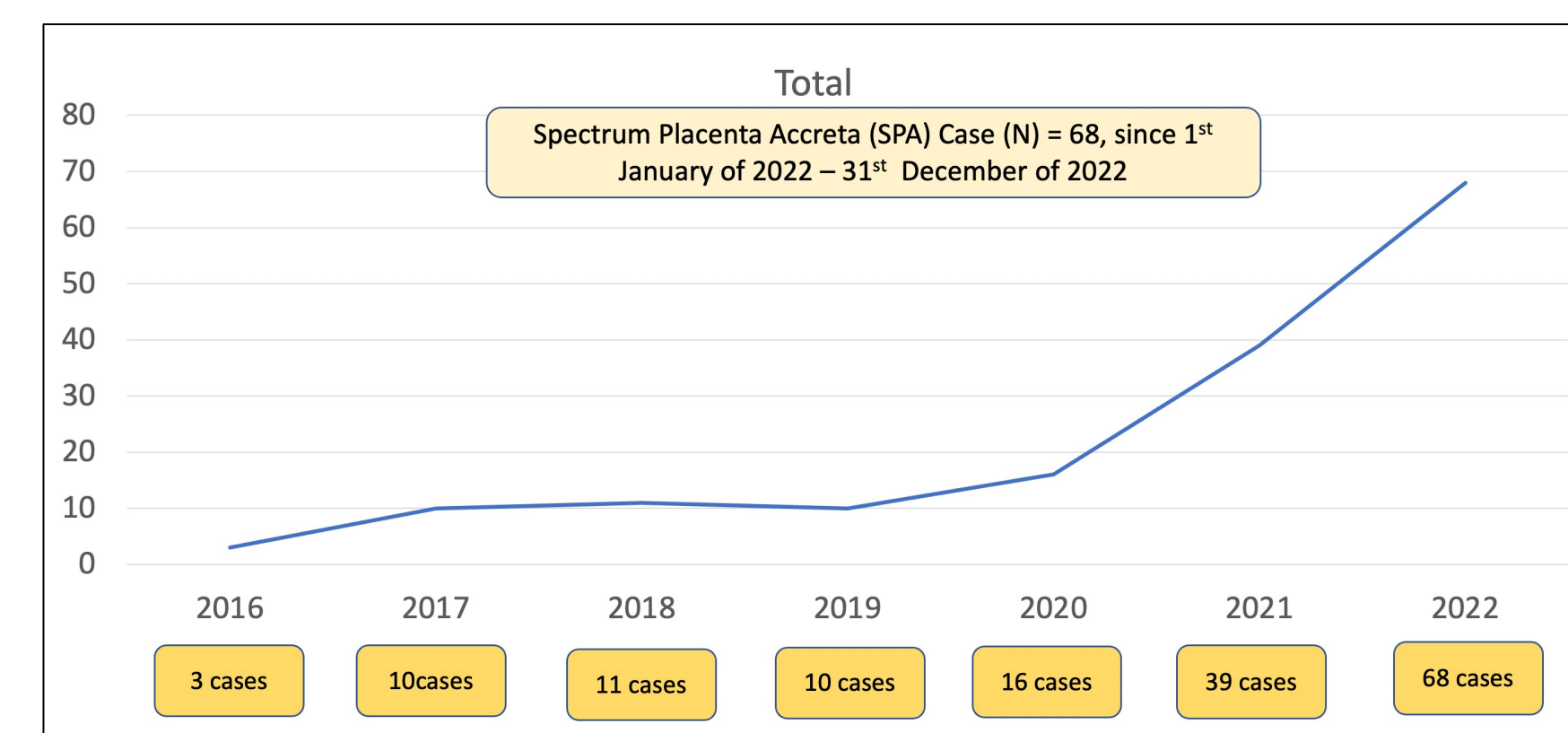
Nuniek Kharismawati , Dani Setiawan, Setyorini Irianti

*Department of Obstetrics and Gynecology, Faculty of Medicine Universitas Padjadjaran – Dr. Hasan Sadikin General Hospital Bandung

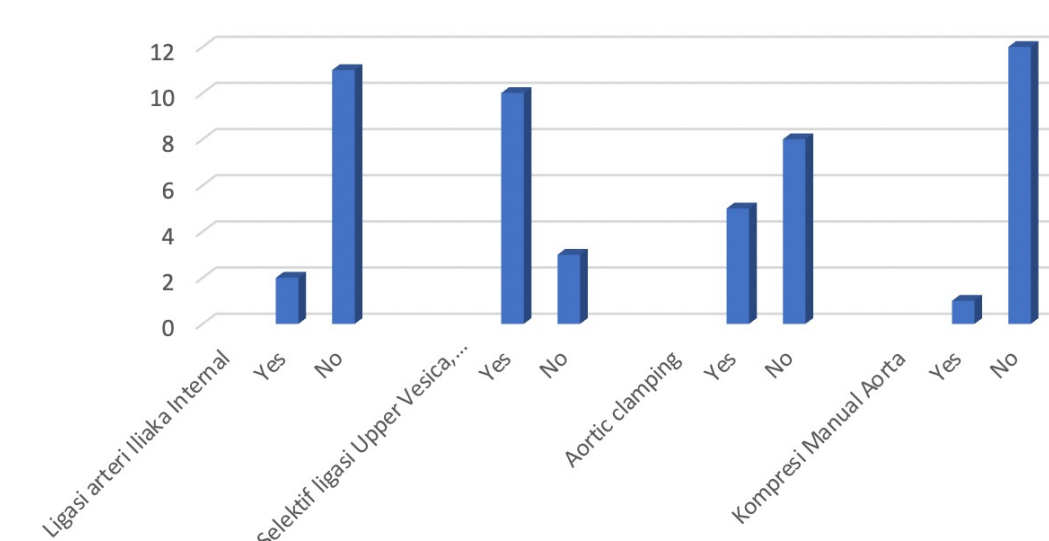


BACKGROUND

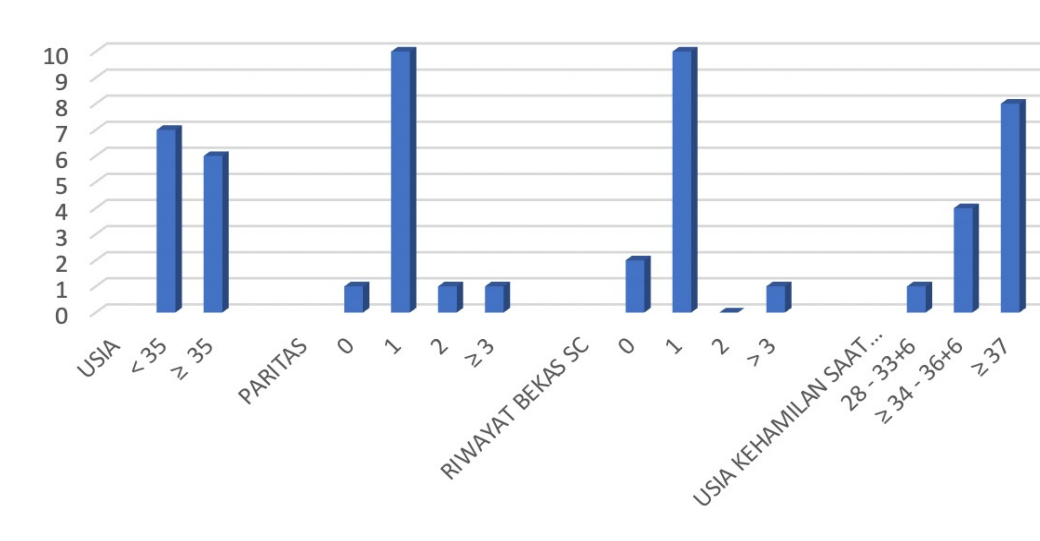
Maternal-Fetal Division Annual Report Regarding Placenta Accreta Spectrum (PAS) 2022



VASCULAR CONTROL IN CONSERVATIVE MANAGEMENT



CHARACTERISTICS OF SPA CONSERVATIVE MANAGEMENT



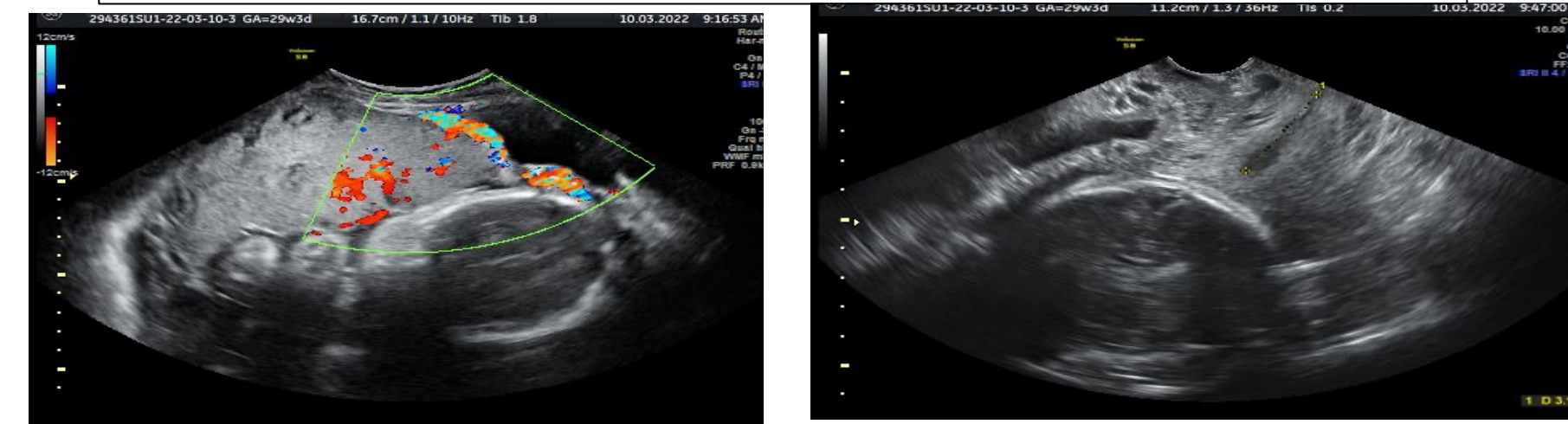
CASE PRESENTATION AND DISCUSSION

First Case

G2P1A0 (32 years) 39-40 gestational weeks with a history of cesarean delivery

Referred to Hasan Sadikin Hospital due to recurrent bleeding of placenta previa. **Ultrasound topography** revealed that the placenta was inserted anteriorly and extended laterally to the right, covering the OUI. Sub-placental and uterovesical hypervascularization. The clear zone area disappears in the third midline. Bridging (+), bulging (-). Lacunae grade 2 , PAI Scoring = 3.5 (Probability 33%-51%)

Impression: suspected PAS FIGO 2-type 1-vascular invasion S1, total placenta previa .



Plan
Conservative operation technique
one-step surgery with internal iliac artery and bilateral uterine artery ligation vascular control

- Completed wedge resection → contraction was not good → vaginal active bleeding (intracervical, below the trigone vesica) → negative compression test
- Cesarean hysterectomy was performed due to uterine atony
- Histopathological results: placenta percreta**
- Baby's condition: BW: 2780 grams, healthy

In the first case, **Ultrasound** vascular invasion was S1. Intraoperative findings showed active bleeding from intracervical and vascularization below trigone bladder which was difficult to stop. Post-surgery finding showed a vascular invasion of S2 based on **intraoperative finding**.

Ultrasound vs MRI

- Ultrasound** is the first line diagnostic tool to establish preoperative diagnosis of PAS due to its effectiveness, inexpensive, widely available and highly sensitivity tools.
- Detection of placental invasion depth has low specificity (64.8%-68.6%)

MRI can be preferably used in the case of placental invasion of the posterior and lateral walls, difficulties in assessing obese patients, parametrium invasion or invasion of other adjacent organs (bladder, cervix, and lateral pelvic wall).

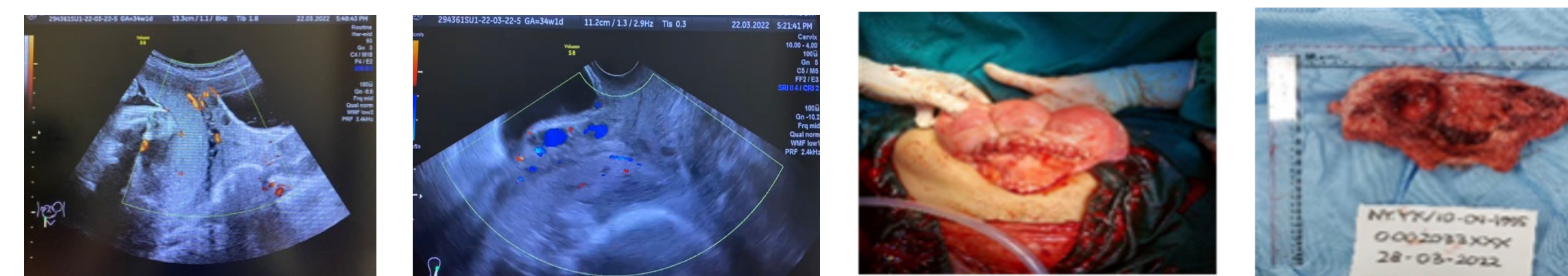
FIGO issued a consensus standardization of clinical grading of PAS that reflected the success rate of a conservative approach. **Placental topography (accreta–increta–percreta), vascularization and location of the abnormal placenta hold pivotal roles in PAS and its management.** Abnormal placental invasion above the lower uterine segment has a higher success rate compared to placental invasion in the lower uterine segment.

Second Case

G5P1A3 (33 years) 34-35 gestational weeks with previous cesarean delivery

Referred to Hasan Sadikin Hospital due to recurrent PAP, suspected small fetus. **Ultrasound topography:** The placenta was inserted anteriorly and extended downward overlying the OUI. Sub-placental hypervascularization. Grade 1 lacuna. Bulging and bridging vessels did not exist. The clear zone area disappeared at the midline. PAI Score : 1.25 (Probability 10%-19%).

Patient diagnosed as total placenta previa with suspected PAS FIGO grade 2-type 1-vascular invasion S1.



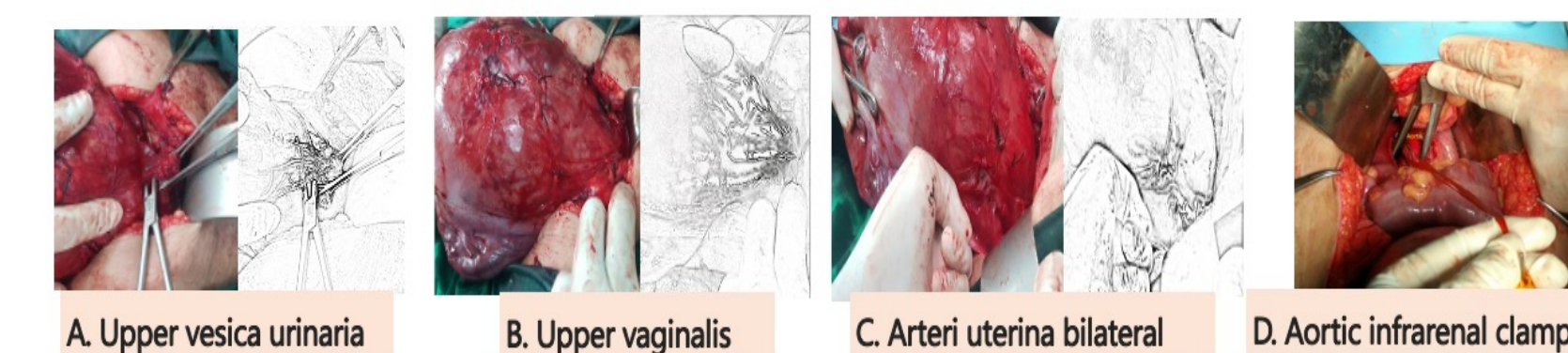
Plan:
Conservative operation technique
one-step surgery with internal iliac artery and B-lynnh suture with bleeding during surgery > 1500 mL

After 1 hour postoperative → profuse vaginal bleeding → Supracervical hysterectomy → proximal vascular control (supra vaginal and upper vesicaurinary and uterine artery ligation bilaterally)

Histopathological results: placenta acreta
Baby's condition: BW: 2000 grams, complicated with necrotizing enterocolitis (NEC), treated for 2 weeks

Procedures for reducing blood flow perfusion to the uterus could be in the form of **(1) Non-surgical** with uterine-placental artery embolization, or **(2) Surgery:** bilateral uterine artery ligation and bilateral iliac artery ligation. The success rate of bilateral iliac artery ligation is approximately 40% - 100%, with a complication rate of 13%. **Some studies do not support internal iliac artery ligation because it takes a longer time, pelvic embolization may occur, and failure rate as much as 60%.**

In the second case, conservative management with one-step surgical technique with vascular control of internal iliac artery ligation and B-Lynch suture. **However, it was less effective** which might be due to bleeding > 1500 mL in the surgery procedures and patient's contractions were not good. Selection of cases according to conservative surgical techniques and operator experience



The Hasan Sadikin General Hospital **Accreta Task Force Team** used the most conservative management of the uterus with one-step surgery techniques and a combination of uterine conservative-resection surgery in 10 cases. Recent developments in the technique of uterine conservative-resection surgery are the development and modification of the one-step surgical approach consisting of (1) Division of the fundal incision is replaced → above the abnormal placental invasion trans-peritoneally and (2) **A new concept in vascular control** replacing the tourniquet with suturing **the anterior cervical area and lateral and upper vesical, upper vaginal and uterine arteries bilaterally**, then given intravenous oxytocin 10 IU after completion of vascular hemostasis. **Hasan Sadikin General Hospital performs additional aortic clamping (case by case) in collaboration with vascular surgery**

Third Case

G2P1A0 (34 years) 29-30 gestational weeks

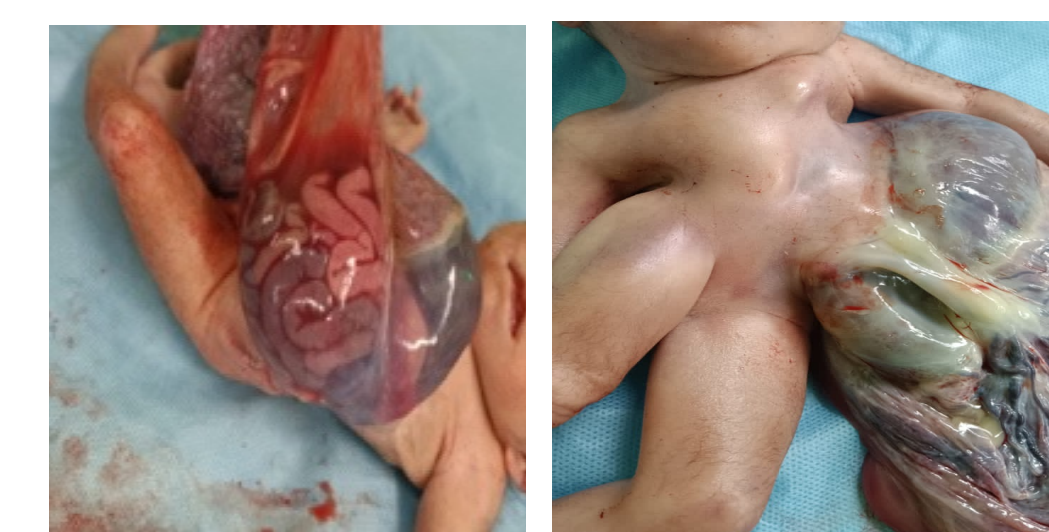


Referred to Hasan Sadikin Hospital for **fetal congenital anomaly confirmation**. **Ultrasound:** In the fetal abdomen, mass outside the abdomen was found with measurement 4x3x3 cm with a 1.9 cm defect. The mass contains liver, stomach, intestine, membranous sheath (-). In the vertebrae formed a kyphoscoliosis. The distance between the umbilical cord and the fetus is short. Surprisingly, placenta inserts anteriorly and extends downward overlying the OUI with absent of clear zone and grade 1 lacuna. Sub-placental and uterovesical hypervascularization present, bridging vessel and bulging absent. PAI Scoring = 2 (Probability 19%)

Plan: Conservative operation technique but the placenta is accidentally stretched → partial spontaneous extirpation occurs and heavy bleeding occurs → manual compression of the aorta immediately

Total intraoperative bleeding >2500 mL. Histopathological findings: **Placenta percreta**
Baby's condition: BW: 800 grams, with body stalk anomaly with respiratory distress syndrome (RDS) → neonatal resuscitation → death

The pathogenesis of PAS is still not fully understood. Several hypotheses suggest that PAS might be occurred due to impaired decidual development, excessive trophoblastic invasion, or a combination of both. **Predisposing factors** are including uterine surgical procedures, curettage, uterine benign tumors, age, multiparity, hypertension, uterine anomalies, etc. **The molecular mechanism** → invasive placental proliferation develops and invades local structures → similar to that of a malignant tumor (induction of angiogenesis, sustained proliferation, delayed apoptosis, immune system damage, activation of invasion, growth factor suppression does not occur).



In the third case, **there was no history of uterine intervention in second pregnancy and no smoking habit.** Placental detachment occurs accidentally due to stretching of the umbilical cord which is a short distance from the umbilical-placental insertion. Conservative uterine surgery is considered a failure if: (1) Bleeding does not stop after removal of the placenta and hemostatic failure, (2) There was repeated bleeding after the abdominal wall was closed, (3), Another thing is the amount of blood loss> 2500 mL, massive blood transfusion (> 4 units of red blood cells in 1 hour, >10 units of red blood cells in 24 hours

CONCLUSION

The conservative failure of our cases were due to mapping of vascular invasion, heavy bleeding both intraoperatively and postoperatively and inaccurate vascular control.

The success of conservative management of PAS:

- Placental invasion topography is well structurally and vascularly based → Ultrasound diagnostic method and and for deep vascular invasion is more accurate by MRI.
- Abnormal placental invasion in upper uterine segment has a higher success rate compared to placental invasion in lower uterine segment.
- The most successful technique in conservative management use one-step conservative surgery procedures with modified uterine conservative-resective surgery with vascular control: upper bladder, upper vagina, bilateral uterine arteries and aortic clamping can be considered.