MANAGEMENT OF PLACENTAL ADHESIVE DISORDERS

Prof. Dr. Yusuf ÜSTÜN

Duzce University Medical Faculty

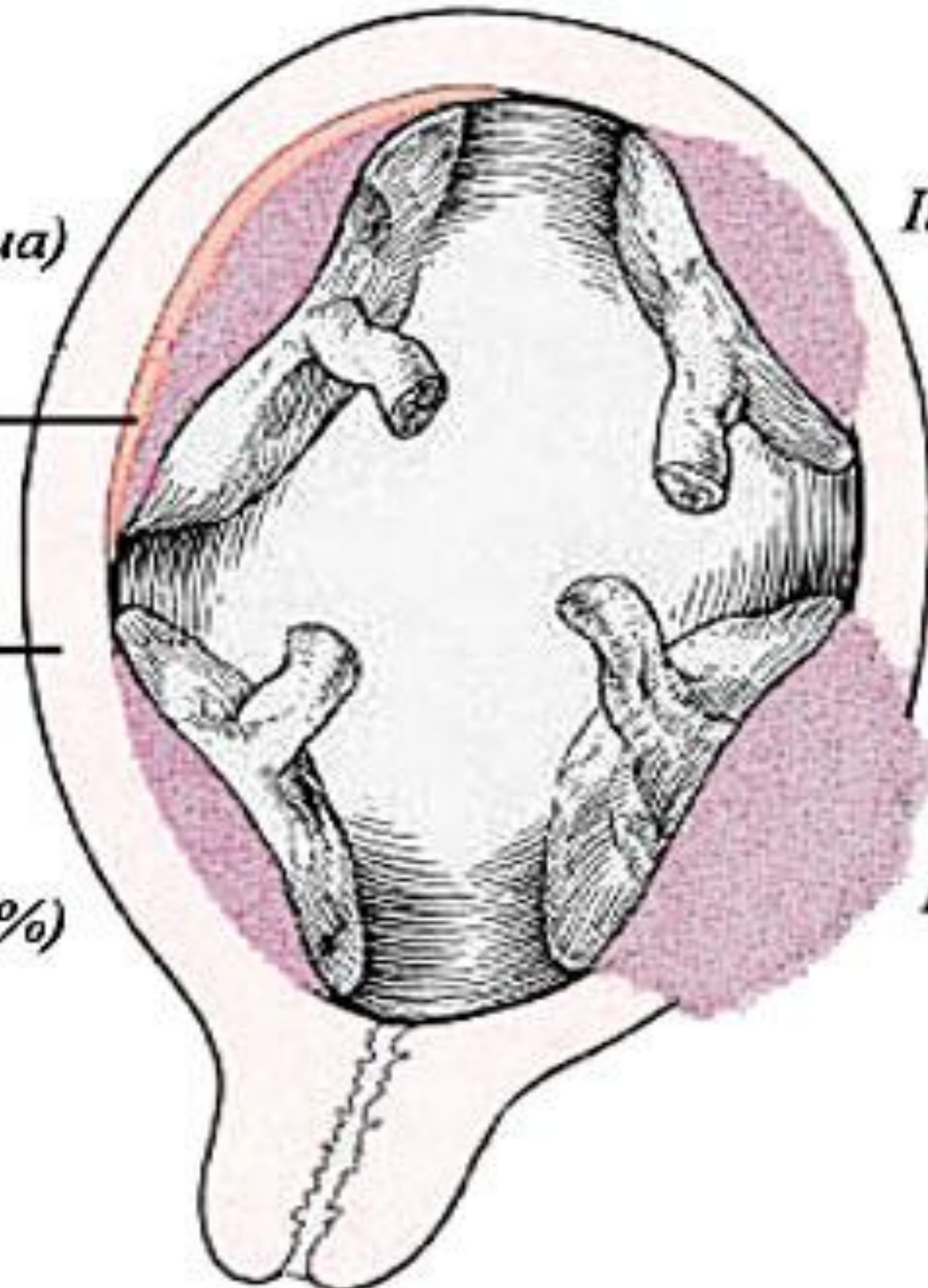
Chair of Obstetrics and Gynecology

PLACENTA ACCRETA

- First described in the 20th century
  - 1930-50 → 1/30000
  - 1950-60 → 1/19000
  - 1980 → 1/7000
  - Today → 1/500-2500 births

  } **C/S** ↑

- Mortality !
- Emergency peripartum hysterectomy !


Normal (Decidua)
Increta (17%)
Stratum basalis
of endometrium
Myometrium
Accreta (75-78%)
Percreta (5%)

RISK FACTORS

- Placenta previa
  - Previous C/S
  - Myomectomy
  - Multiple pregnancy
  - Grandmultiparity

  } **ACCRETA !**
- Previous uterine surgery (myomectomy, C/S)
- Asherman syndrome
- Submucous myoma
- Advanced maternal age
- Female fetus

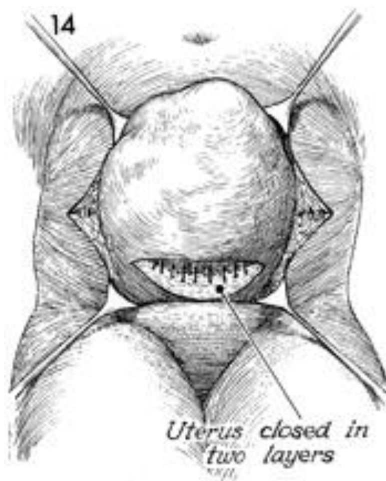
C/S	Placenta previa	Normal Placenta
Primary	3.3	0.03
2	11	0.2
3	40	0.1
4	61	0.8
5	67	0.8
≥ 6	67	4.7

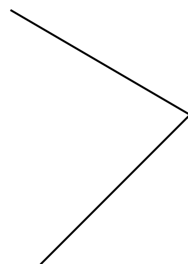
DOI: 10.1111/1471-0528.12717
www.bjog.org

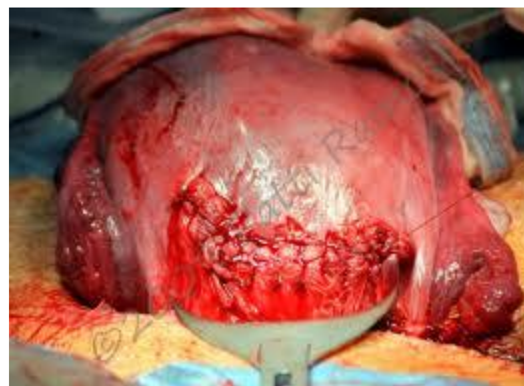
Uterine sutures at prior caesarean section and placenta accreta in subsequent pregnancy: a case–control study

S Sumigama,[a] C Sugiyama,[b] T Kotani,[a] H Hayakawa,[c] A Inoue,[d] Y Mano,[a] H Tsuda,[a] M Furuhashi,[e] O Yamamuro,[f] Y Kinoshita,[g] T Okamoto,[h] H Nakamura,[b] K Matsusawa,[i] K Sakakibara,[j] H Oguchi,[k] M Kawai,[l] Y Shimoyama,[m] K Tamakoshi,[n] F Kikkawa[a]

- Interrupted sutures better than continuous







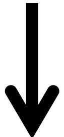
Sumigama S, et al. BJOG 2014; DOI: 10.1111/1471-0528.12717

Maternal/fetal risks ↑
>36 w, invasion degree

Scaring process after surgery

Abnormal vascularization

Localized hypoxia

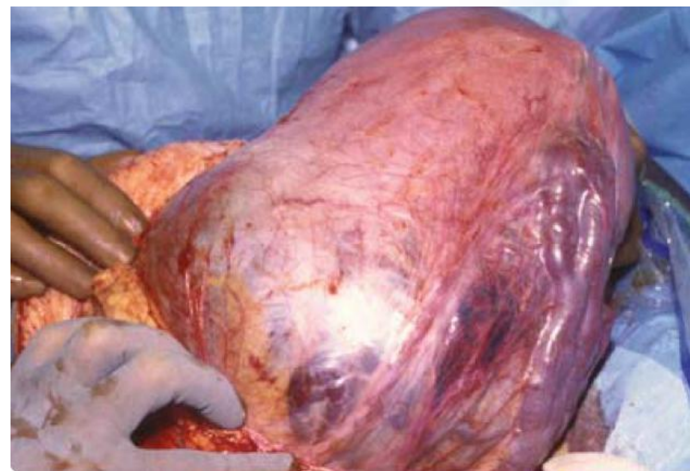


Defective decidualization and Excessive trophoblastic invasion

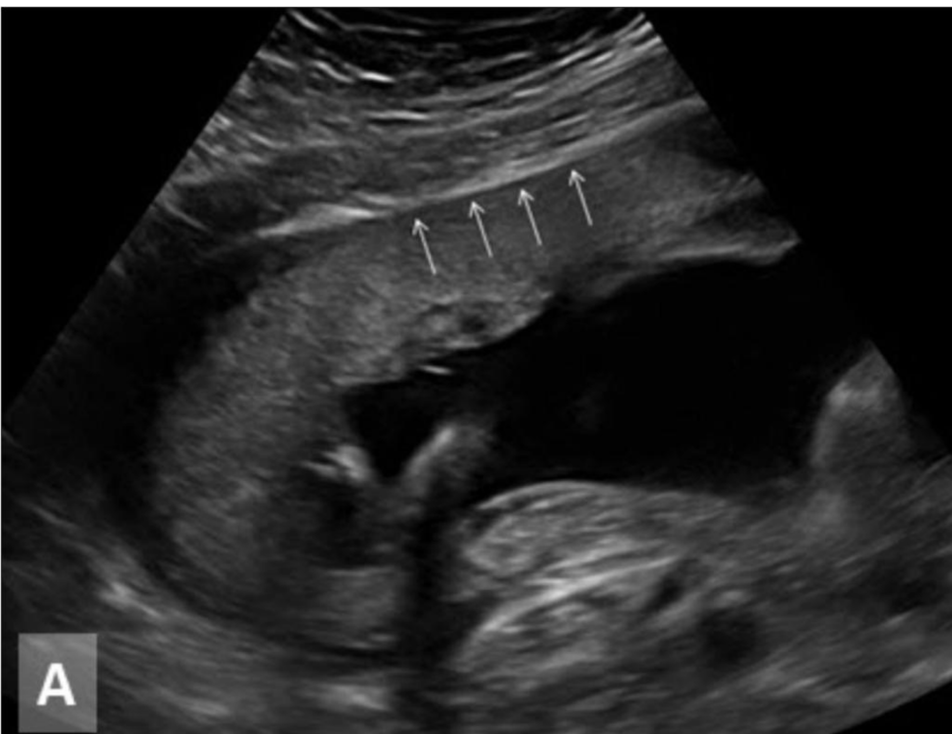
DIAGNOSIS

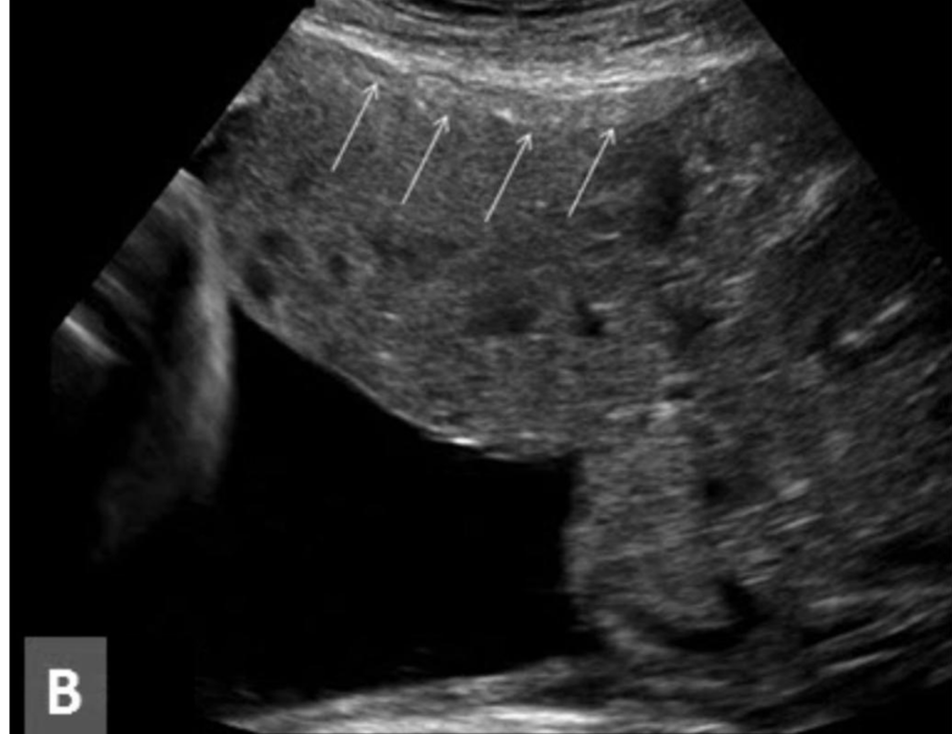
- Usually by US
  - Sensitivity % 80
    Specificity % 95

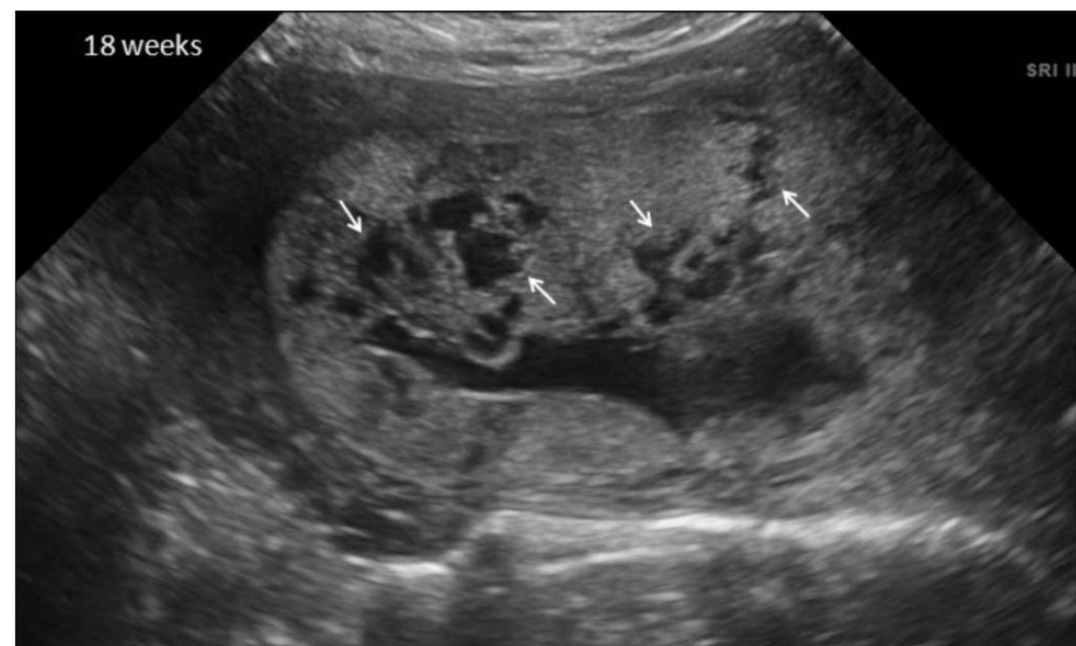
- MRI
  - Confirm the diagnosis
  - Delineate the presence or extent of accreta

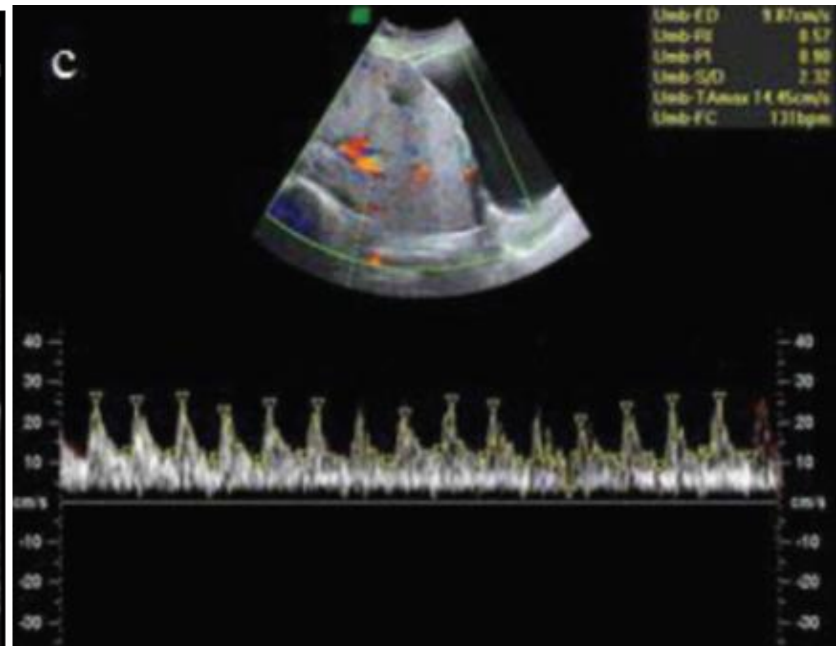


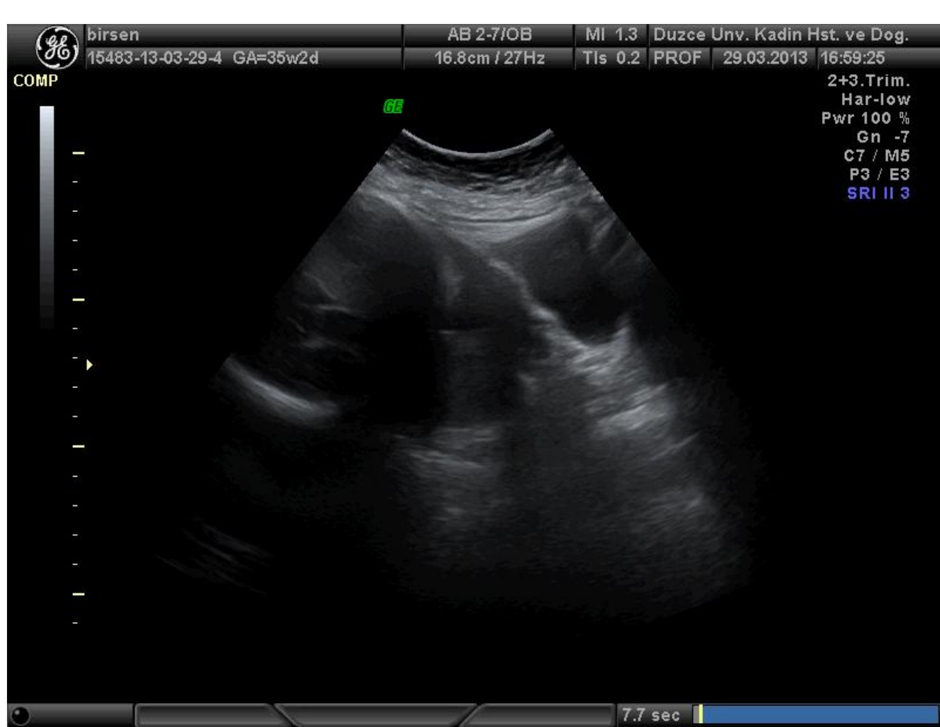
Khan M. Et al Placenta 2013;34:963-6

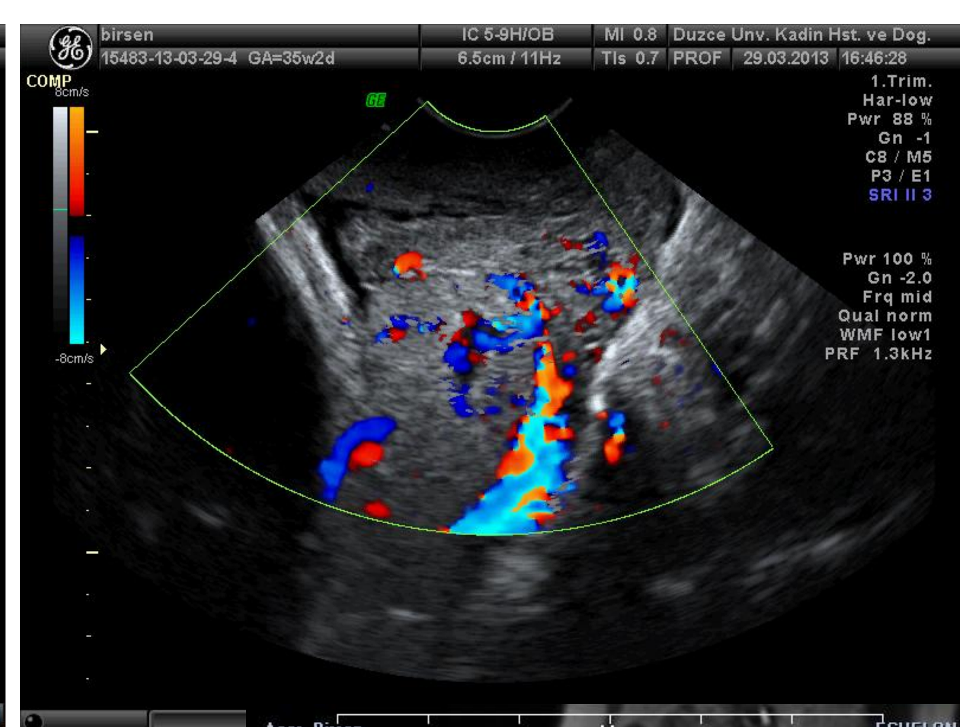

A

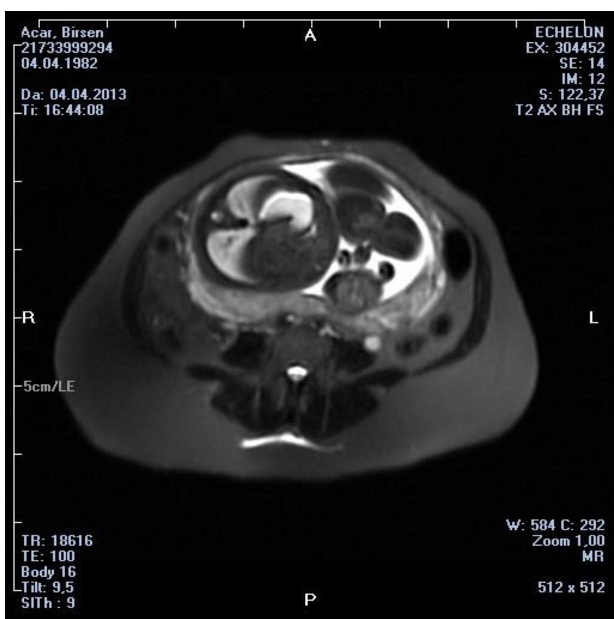

B

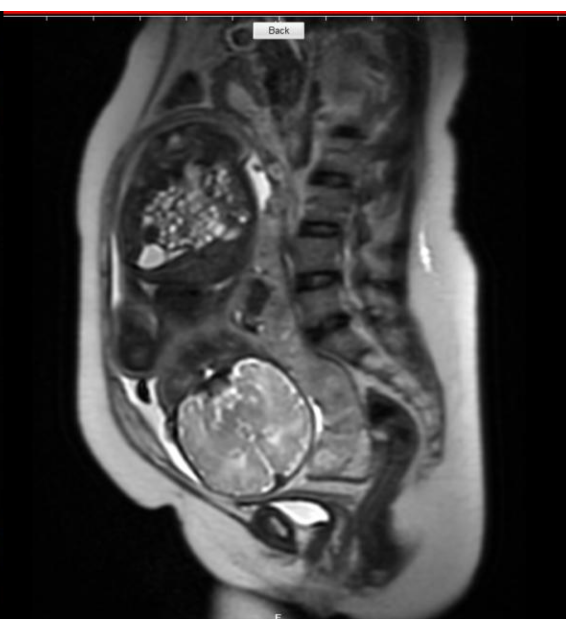

18 weeks
SRI II

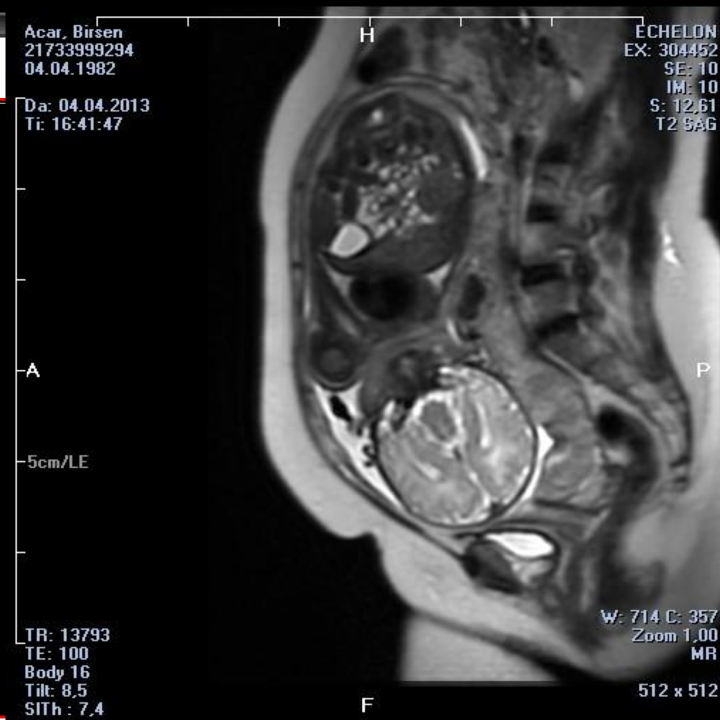

C


birsen
15483-13-03-29-4 GA=35w2d
AB 2-7/OB
16.8cm / 27Hz
MI 1.3
TIs 0.2
Duzce Unv. Kadin Hst. ve Dog.
PROF 29.03.2013 16:59:25
COMP
2+3.Trim.
Har-low
Pwr 100 %
Gn -7
C7 / M5
P3 / E3
SRI II 3
7.7 sec

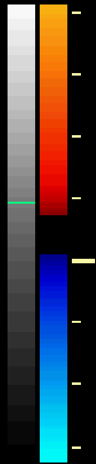

birsen
15483-13-03-29-4 GA=35w2d
IC 5-9H/OB
6.5cm / 11Hz
MI 0.8
TIs 0.7
Duzce Unv. Kadin Hst. ve Dog.
PROF 29.03.2013 16:46:28
COMP
8cm/s
-8cm/s
1.Trim.
Har-low
Pwr 88 %
Gn -1
C8 / M5
P3 / E1
SRI II 3
Pwr 100 %
Gn -2.0
Frq mid
Qual norm
WMF low1
PRF 1.3kHz

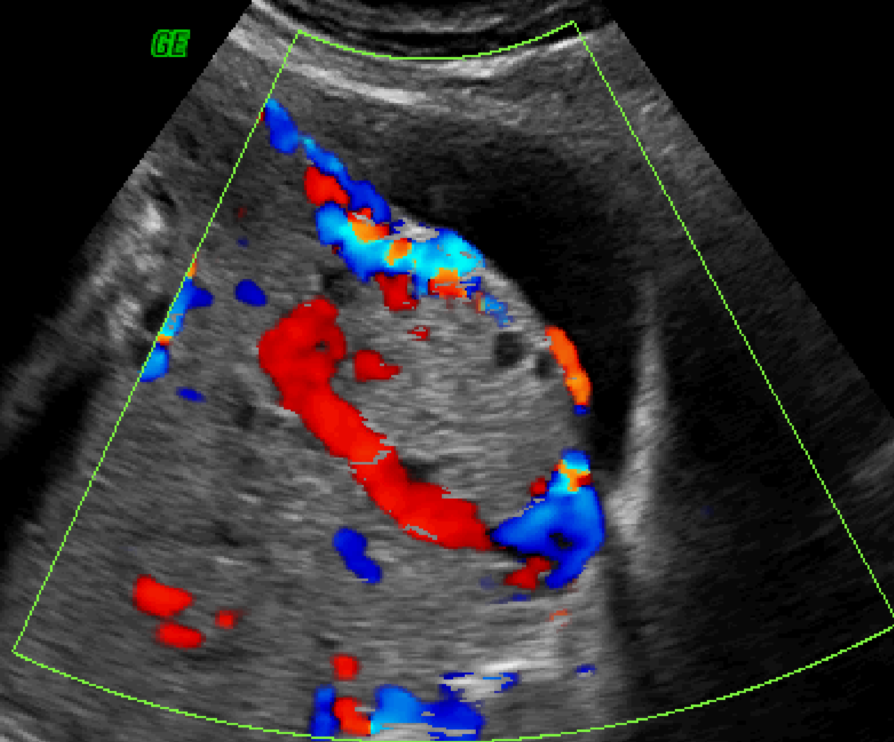

Acar, Birsen
21733999294
04.04.1982
Da: 04.04.2013
Ti: 16:44:08
ECHELON
EX: 304452
SE: 14
IM: 12
S: 122,37
T2 AX BH FS
A
R
L
5cm/LE
P
TR: 18616
TE: 100
Body 16
Tilt: 9,5
SlTh : 9
W: 584 C: 292
Zoom 1,00
MR
512 x 512


Back

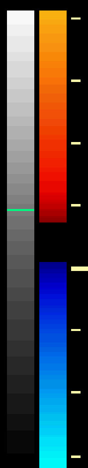

Acar, Birsen
21733999294
04.04.1982
Da: 04.04.2013
Ti: 16:41:47
ECHELON
EX: 304452
SE: 10
IM: 10
S: 12,61
T2 SAG
H
A
P
5cm/LE
F
TR: 13793
TE: 100
Body 16
Tilt: 8,5
SlTh : 7,4
W: 714 C: 357
Zoom 1,00
MR
512 x 512

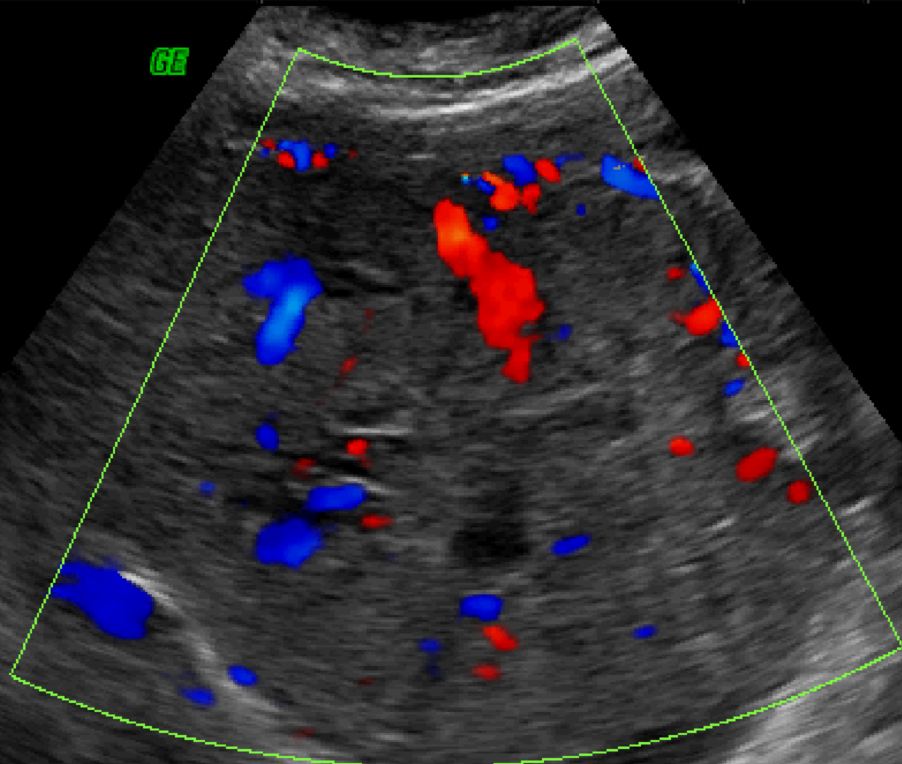
ayse akgun
15483-13-06-24-1 GA=38w0d
RAB 2-5L/OB
20.0cm / 38Hz
MI 1.2
TIs 0.2
Duzce Unv. Kadin Hst. ve Dog.
24.06.2013
18:19:37
COMP
GE
2+3.Trim.
Har-low
Pwr 100
Gn -2
C6 / M6
E3
SRI II 3 / CRI 2
5.4 sec





ayse akgun
15483-13-06-24-1 GA=38w0d
RAB 2-5L/OB
20.0cm / 5Hz
MI 1.2
TIs 0.3
Duzce Unv. Kadin Hst. ve Dog.
24.06.2013
18:25:17
COMP
25cm/s
-25cm/s
2+3.Trim.
Har-low
Pwr 100
Gn -2
C6 / M6
E3
SRI II 3 / CRI 2
Pwr 100
Gn -1.8
Frq mid
Qual norm
WMF low1
PRF 1.8kHz
2.7 sec


COMP
25cm/s
-25cm/s


ayse akgun
15483-13-06-24-1 GA=38w0d
RAB 2-5L/OB
20.0cm / 5Hz
MI 1.2
TIs 0.3
Duzce Unv. Kadin Hst. ve Dog.
24.06.2013
18:14:13
GE
2+3.Trim.
Har-low
Pwr 100
Gn -2
C6 / M6
E3
SRI II 3 / CRI 2
Pwr 100
Gn -1.8
Frq mid
Qual norm
WMF low1
PRF 1.8kHz
6.9 sec

ANTENATAL DIAGNOSIS

- Prepare and counsel for treatment options and complications

  - Consent for C/S Hysterectomy
  - If placenta is left in situ
    - Inform patient risk of complication (sepsis and delayed hemorrhage)
  - Multidisciplinary approach

Guleria K et al. ActaObstet Gynecol Scand 2013;92:461–4

PRECAUTIONS IN THE ANTENATAL PERIOD

- Hct
- Blood group
- Fe (oral/IV)
- Betamethasone
- Referral to tertiary center

OPTIMAL TIMING OF DELIVERY

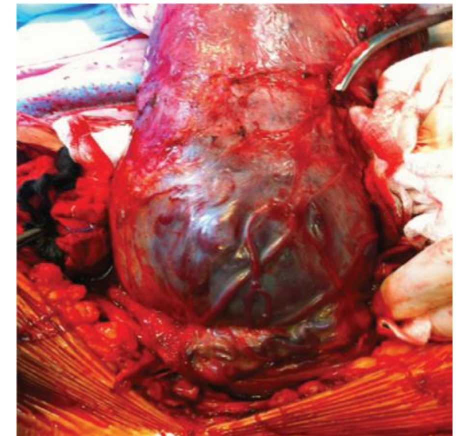
35-36 w in cases of suspected accreta

In the absence of any bleeding

34-35 w after steroid administration

Without AF confirmation of fetal lung maturity

- Optimize outcome for the mother
  - 93% report hemorrhage after 35w
  - shorter OR times,
  - lower frequency of transfusions,
  - lower ICU admission



Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

BALLOON OCCLUSION OF THE AORTA OR INTERNAL ILIAC VESSELS

- Utility?
- Prevent excessive blood loss during resection of the lower uterine segment
- Place into the Int. Iliac A. preop and inflate during the dissection
- There is a need for larger studies / RCT

Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

Extirpative Method

C/S Hysterectomy

PROCEDURES

Conservative Treatment

One-step Conservative Surgery

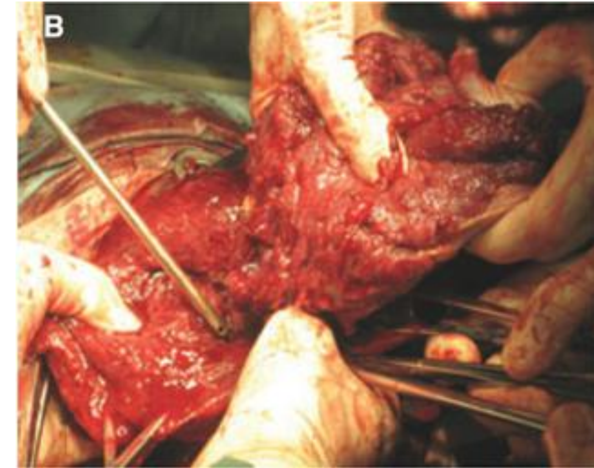
Placenta accreta with an anterior previa

Vertical fundal incision

Avoid placenta and reduce the risk of massive PPH

EXTIRPATIVE METHOD

- Undiagnosed accreta
- Forcible manual removal
- Higher rate of massive PPH and peripartum hysterectomy



Should be abandoned when other procedures are available

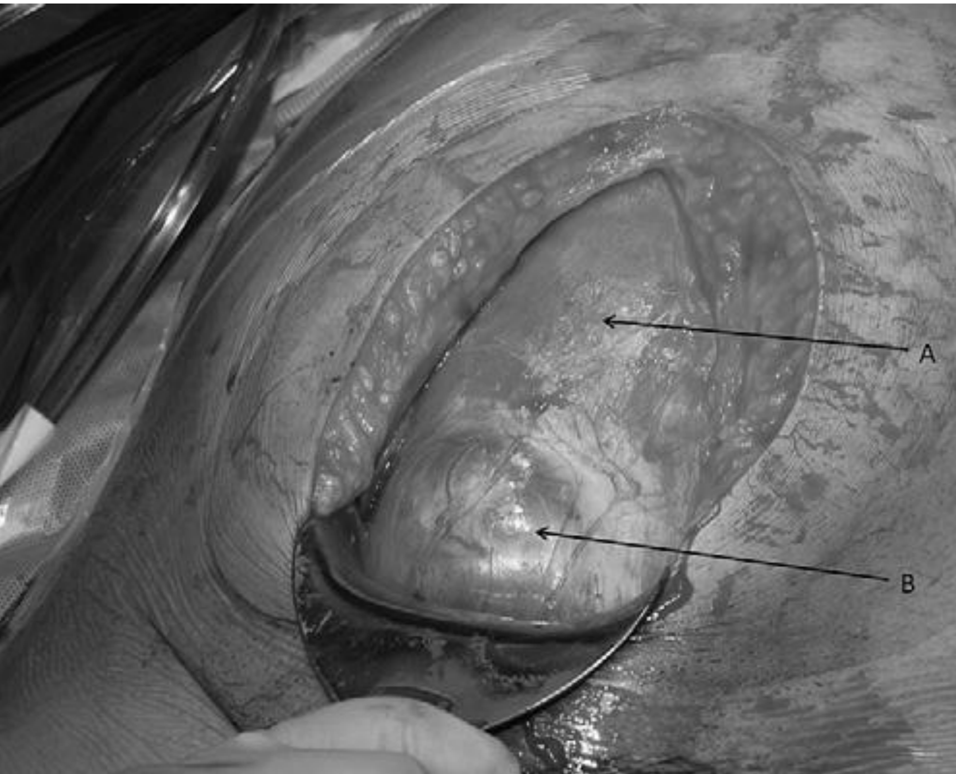
Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

C/S HYSTERECTOMY

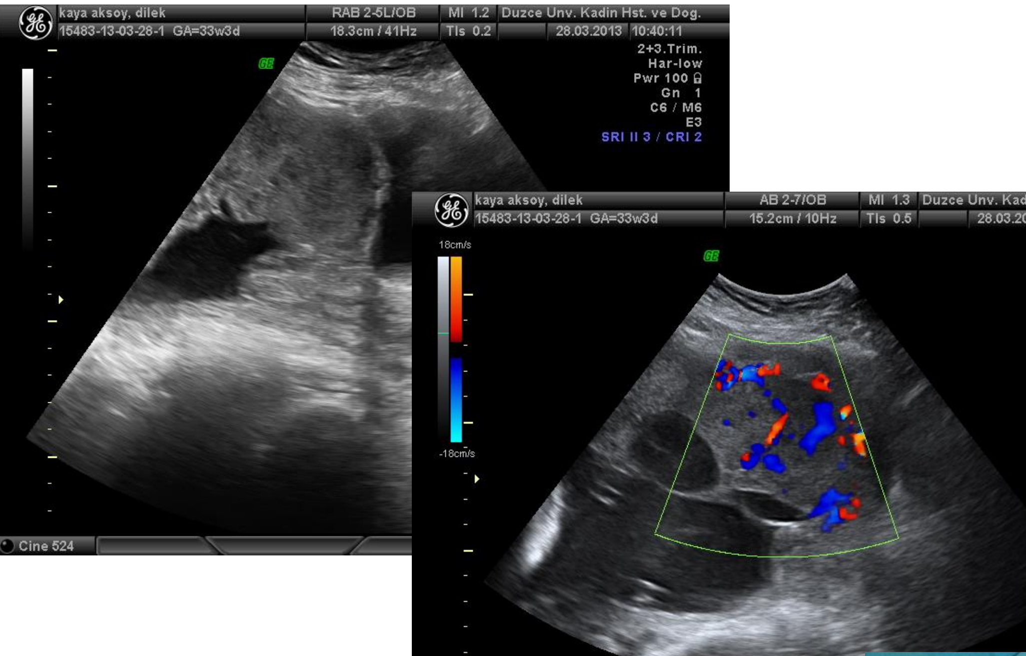
- Currently recommended by the ACOG
- Maternal mortality relatively low
- Mortality 7 % with placenta percreta

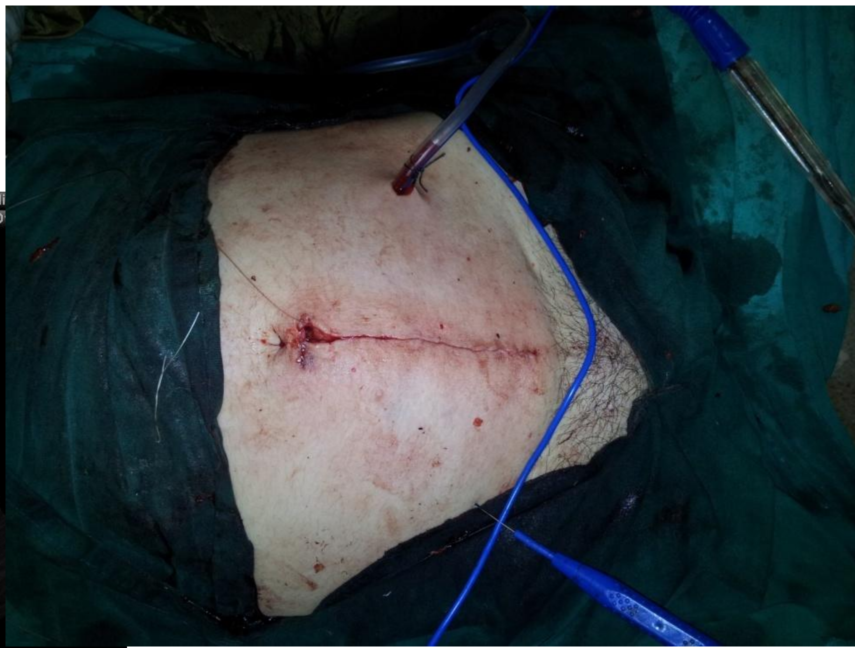
Without attempting to remove the placenta have lower complication rate

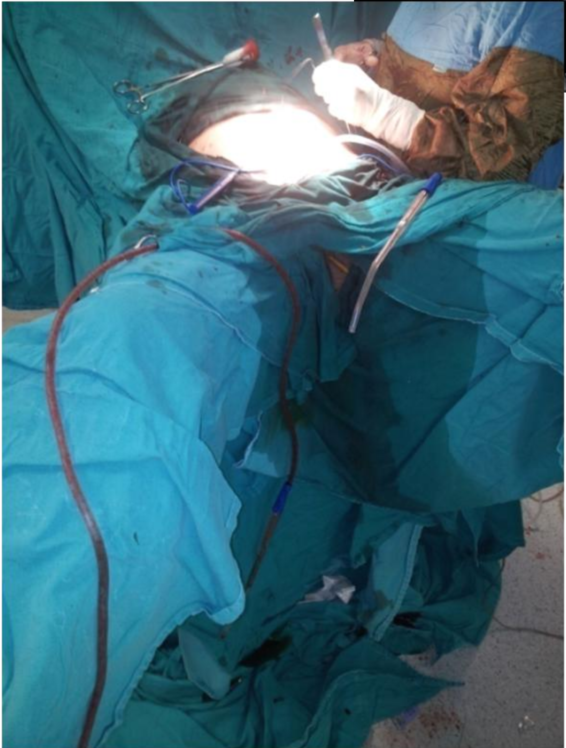
Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125-34

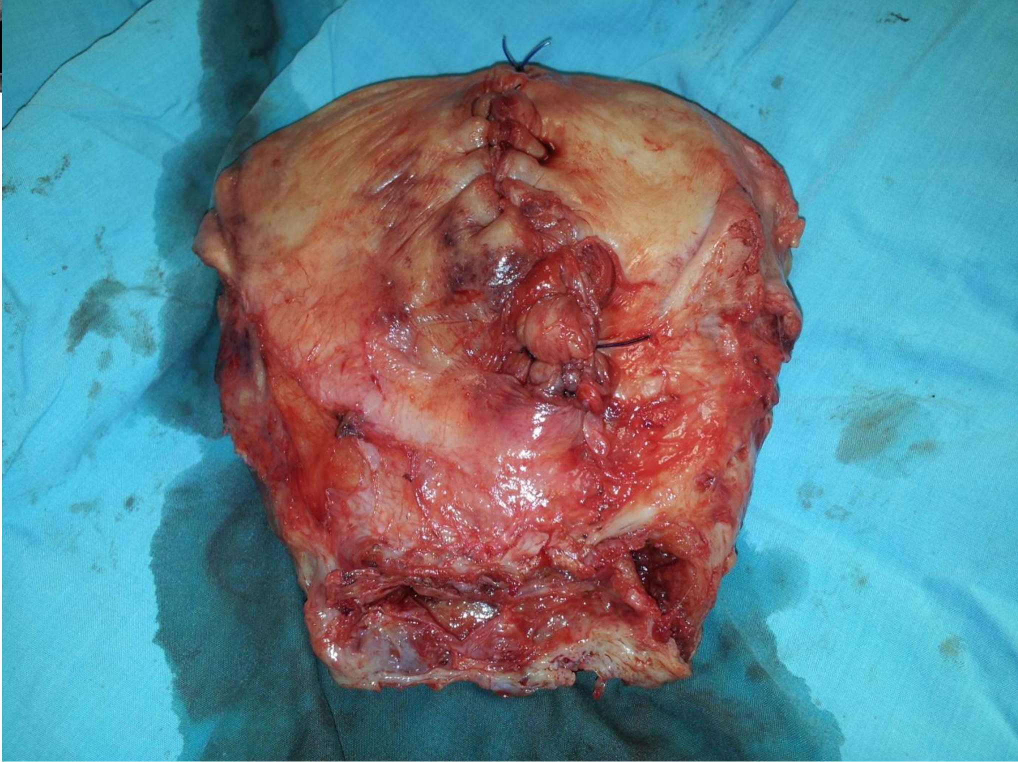


Obstet Gynecol Clin N Am 2013;40:137-54

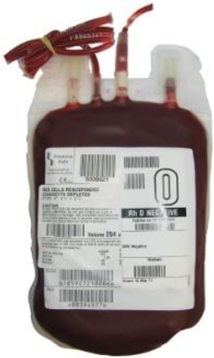

kaya aksoy, dilek
RAB 2-5L/OB
MI 1.2
Duzce Unv. Kadin Hst. ve Dog.
15483-13-03-28-1 GA=33w3d
18.3cm / 41Hz
TIs 0.2
28.03.2013 10:40:11
2+3.Trim.
Har-low
Pwr 100
Gn 1
C6 / M6
E3
SRI II 3 / CRI 2
Cine 524
kaya aksoy, dilek
AB 2-7/OB
MI 1.3
15483-13-03-28-1 GA=33w3d
15.2cm / 10Hz
TIs 0.5
18cm/s
-18cm/s







Prior to skin incision all required blood products (RBC, FFP, and PLT) should be available



↓

Decide for balloon occlusion or embolisation catheters

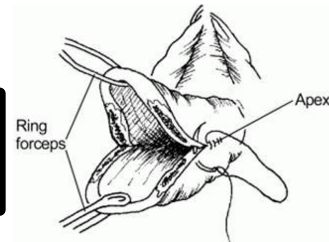
↓

Individualize choice of anesthesia

Regional anaesthesia may have fetal benefits but it may limit the ability to manipulate the abdominal contents for retractor placement

↓

Place a ring forceps on the cervix



Perez-DelboyA, Wright JD. BJOG 2014;121:163–70

↓

Inspect entire pelvis

↓

Identify placental abnormalities,
Perform hysterotomy away from placenta
(Fundal or posterior uterine wall)

↓

Not disrupt placenta after delivery of the infant

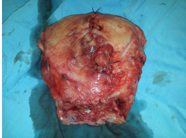
↓

Uterotonics

Some reports recommend avoiding to limit placental disruption,
Other data suggest that reduce uterine atony and limit uterine bleeding

Perez-DelboyA, Wright JD. BJOG 2014;121:163–70

Use of ancillary procedures ----- No benefit (Prophylactic Int.Iliac A. ligation)



Hysterotomy incision should be closed

↓

Do not perform hysterectomy in a standard fashion

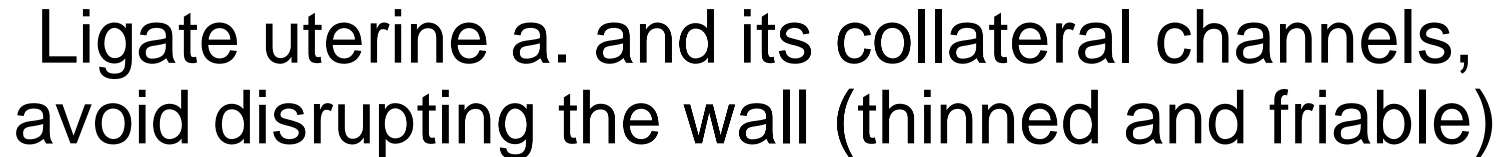
↓

Ligate the vascular channels coursing to the uterus within the retroperitoneum

↓

Visualize ureters, divide utero-ovarian ligaments pack the ovaries

Perez-DelboyA, Wright JD. BJOG 2014;121:163–70



Often necessary to perform a cystotomy to fully separate the bladder from the uterus

Perez-DelboyA, Wright JD. BJOG 2014;121:163–70

Elevate LUS/cervix
Amputate uterine fundus with placental mass

↓

If hemostasis is obtained cx can be left in situ
(but removal of the entire cervix is often required)

↓

Cauterize or ligate vascular channels along the posterior wall of the bladder

↓

Indigo carmine (detect damage ureter or bladder)

↓

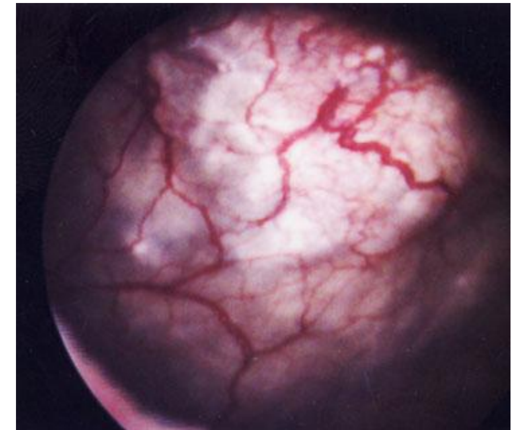
If a cystotomy was required, close bladder after ensuring the integrity of the ureteral orifices

Perez-DelboyA, Wright JD. BJOG 2014;121:163–70

PLACENTA PERCRETA WITH BLADDER INVASION

- Bladder is most frequently invaded organ
- Morbidity is severe and high (72.2%)
- Maternal mortality 5.6%
- Preoperative ureteral catheter

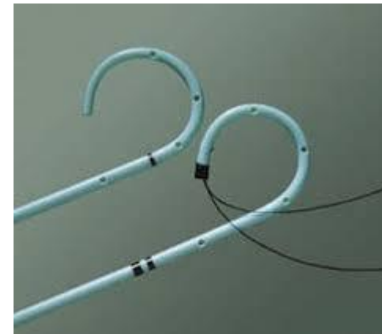
  minimize complications



- Morbidity is low in conservative than radical treatment

URETERAL STENTS?

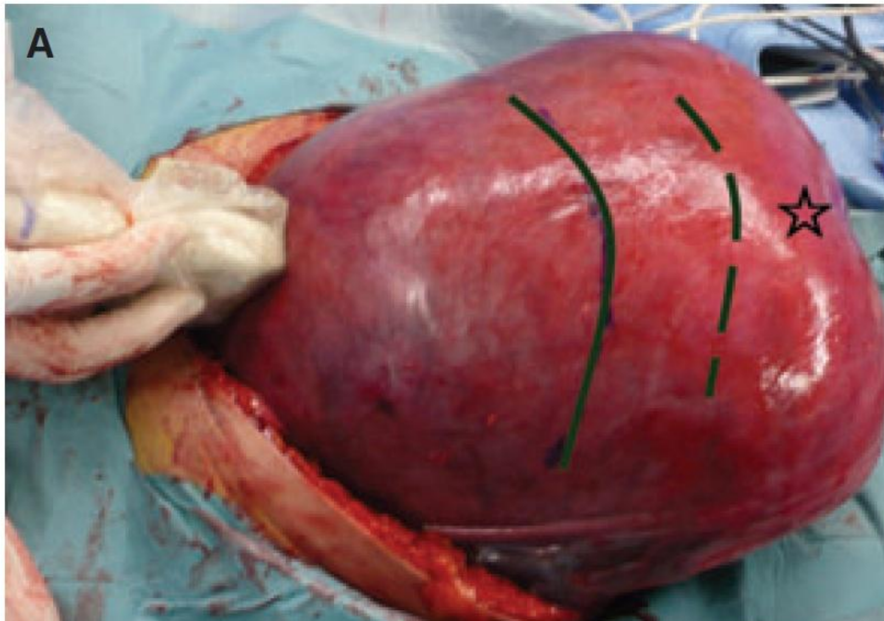
- Lower morbidity (18% vs 55%, $p = 0.018$)
- Nonsignificant reduction in ureteral injury (0 vs 7%)
- For considering routine use further evaluation is required
- In recent American surveys
  - 26-35 % reported using ureteral stents

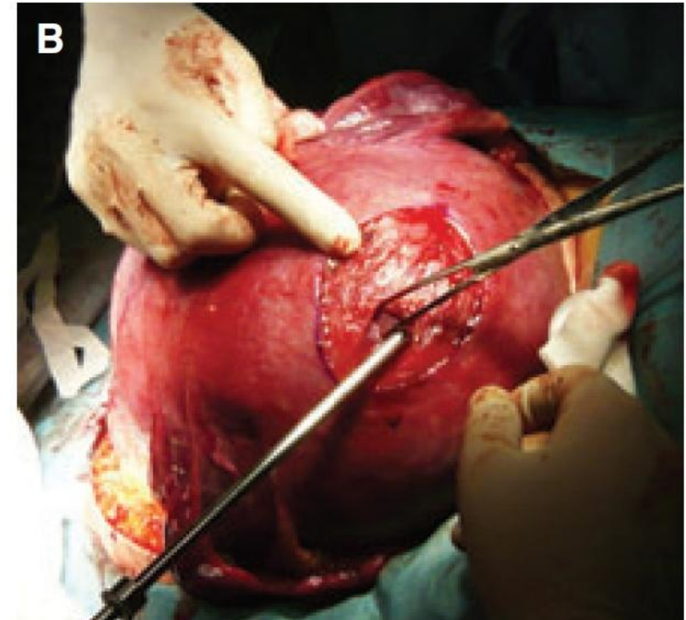


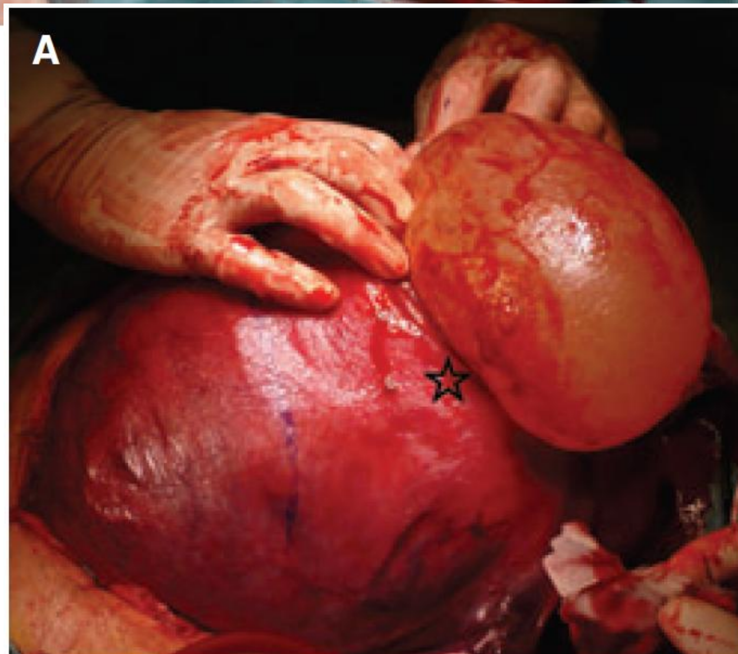
Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

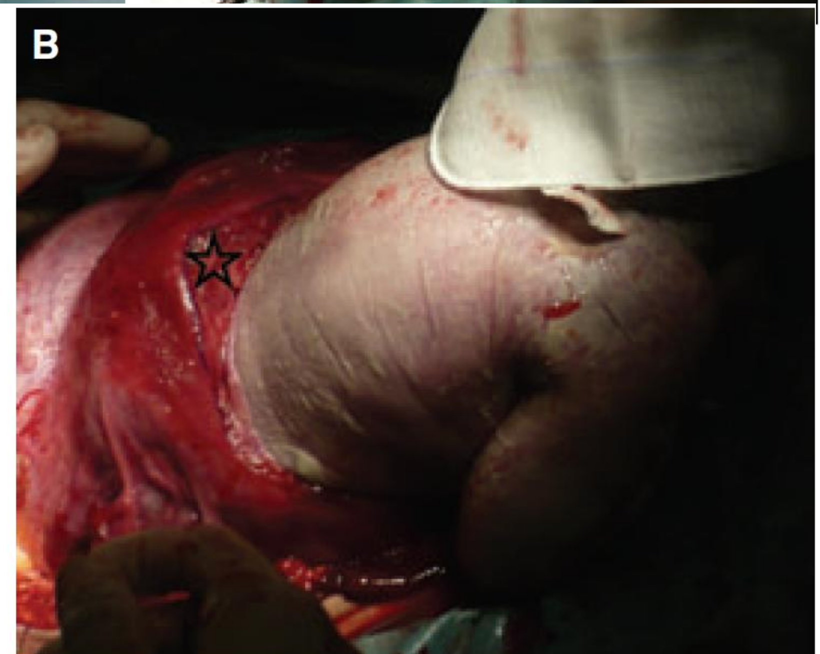
Transverse uterine incision

Kotsuji F et al BJOG 2013









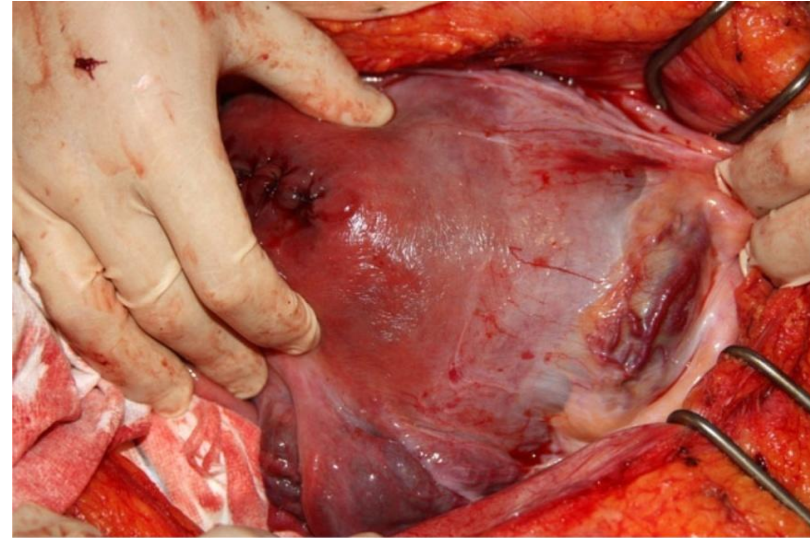
CONSERVATIVE MANAGEMENT

- Placenta is left in situ for resorption
- Severe long-term complications
  - Hemorrhage and infections
    - 58 % risk of hysterectomy up till 9 months after delivery

Clausen C et al. Acta Obstet Gynecol Scand 2014;93:138-43

If percreta is diagnosed in the operation

Deliver the infant



Leave the placenta

Close the uterus and book the woman for second surgery (local resection or hysterectomy)

at a later time and/or at another more resource-advanced hospital (within 24 h)

Chantraine F. et al. Acta Obstet Gynecol Scand 2013;92:369-71
Clausen C et al. Acta Obstet Gynecol Scand 2014;93:138-43
Fitzpatrick KE et al. BJOG 2014;121:62-71

CONSERVATIVE MANAGEMENT

- Close follow up for development of any complications (weeks to months)

- Most common complication is **fever**

  Endomyometritis or florid sepsis

  Inflammatory response to tissue necrosis

Prophylactic broad-spectrum antibiotic should be used

Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

MONITORIZATION OF
CONSERVATIVE MANAGEMENT

- No data available
- Prophylactic antibiotics for 5 days
- Discharge on the 8th postop day

Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

MONITORIZATION

Follow up weekly until the complete resorption

Clinical Examination
- Bleeding
- Temperature
- Pelvic pain

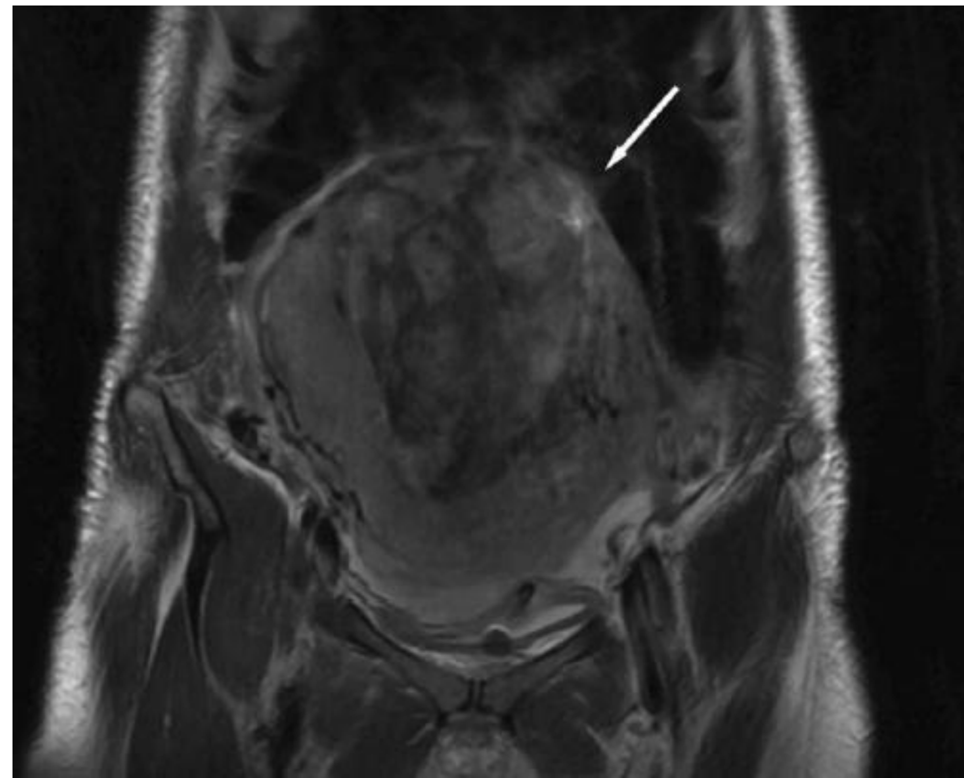
Pelvic US
- Volume of retained tissue

Laboratory
- CBC, CRP
- Vaginal culture

CONSERVATIVE MANAGEMENT

- 167 women
- Failure 22 % (required hysterectomy)
  - 18 primary hysterectomy for intraoperative bleeding,
  - 18 underwent a delayed hysterectomy
- Severe morbidity occurred in 10 women
- One death due to MTX complication
- Spontaneous placental resorption (75%)
  - Average interval 13.5 w (range 4-60)

Sentilhes L, et al. Obstet Gynecol. 2010;115:526



Approximately 10 months after her uterine preservation surgery, the patient had an unplanned repeat pregnancy. At 26 weeks of gestation, ultrasonogram

Fig. 2. Hysterectomy specimen with fundal rupture and recurrent placenta accreta.

Deshpande. Uterine Rupture After Placenta Accreta. Obstet Gynecol 2013.

Deshpande NA et al Obstet Gynecol 2013;122:475–8

GENTLE REMOVAL OF PLACENTA SUSPECTED ACCRETA?

- Cause severe bleeding with the risk of maternal complications and hysterectomy

- Attempt gently to remove the placenta only in cases of unconvincing findings of accreta

Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

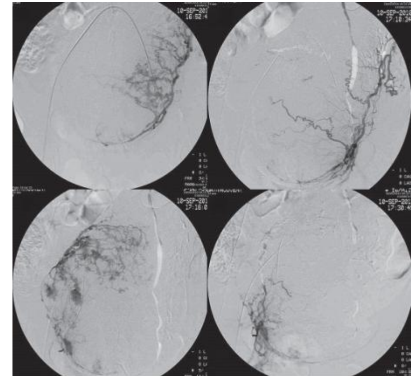
MTX FOR ADJUVANT TREATMENT?

- Acts only on rapidly dividing cells
  - Trophoblastic proliferation does not occur at term
- Controversy regarding effectiveness
- MTX → neutropenia or medullary aplasia
- Lack of consensus regarding
  - Optimum dosing, frequency or route of administration

RCOG does not recommend routine use

Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

Preventive uterine devascularization in the absence of bleeding?



- Very limited data to answer
- Preventive devascularization
  - Embolization, BUAL, BHAL
- Less effective in cases of placenta accreta
- May have harmful effects
  - 2 cases of uterine necrosis occurred in 62 women (French study)

Further evaluation is required

Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

ONE-STEP CONSERVATIVE SURGERY

- Resecting the invaded area together with placenta and performing reconstruction

- Palacios et al has reported 45 patients
  - 44 were uneventful and only one was complicated by a recurrence of accreta

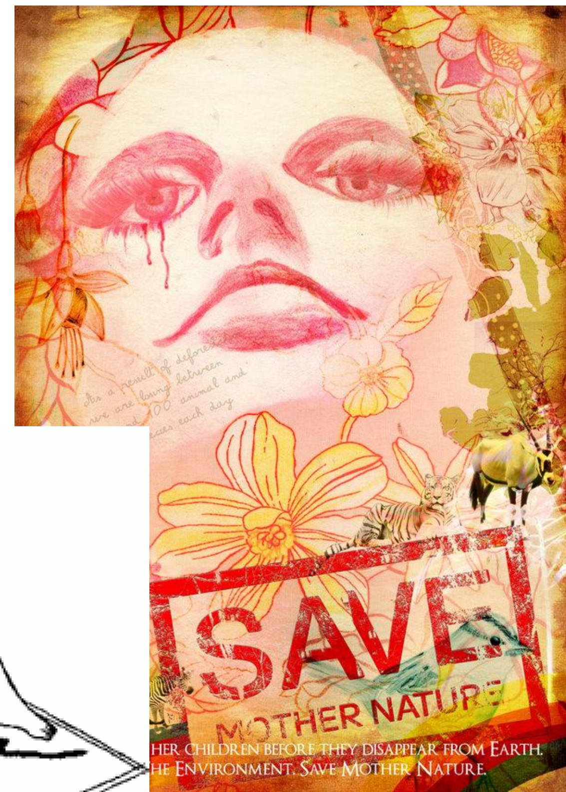
!! Achieving hemostasis may be very challenging for an inexperienced team

Sentilhes L et al. Acta Obstet Gynecol Scand 2013;92:1125–34

CONCLUSION

- C/S hysterectomy is **"gold standard"**
- Conservative treatment is a valid option
  - For percreta with bladder invasion
  - For young women with fertility desire
  - Who agree to close follow-up monitoring
- Prospective PACCRETA study has been launched to answer some of the questions

In France, 182 centers, 270 000 deliveries annually; 120 placenta accreta



No woman should die giving life!