Plasenta Previa/Akreata Yönetimi

Dr. Nuri Danışman

Plasenta previa/akreata yönetimi

- Sorunun boyutları
- Risk faktörleri
- Antenatal tanı
- Doğum zamanlaması
- İntraoperatif yaklaşım
  - standart cerrahi
  - konservatif yaklaşım
- Sonuç

Plasenta akreata

- İlk kez 1937 yılında tanımlanmış.
- 1970 1/4207 (ACOG,Com. Op. No:529,2013)
- 1980 1/2510 (ACOG,Com. Op. No:529,2013)
- 1990 1/833 (Brettle, 2005)
- 2000 1/533 (Wu,2005)

Plasenta akreata

- Hastanemizde :
  - 1985 – 1989: Histerektomilerin % 25.5'i (11/43)
    genel insidans : 1/9784 (Zorlu, 1994)
  - 1989 – 1994: Histerektomilerin % 41.7'si (10/24)
    genel insidans : 1/10320 (Zorlu, 1994)
  - 2003 -2008: Histerektomilerin % 41.2'si (31/73)
    genel insidans : 1/3700 (Karayalçın, 2011)
  - 2008 – 2013: Histerektomilerin % 56'sı (27/48)
    genel insidans : 1/3501 (Danışman,2014)

2014 ilk 8 ay 36 obst. histerektomi **, 24 pre.akr. %66**

Risk faktörleri

- Myometrial doku hasarı, sekonder kollajen tamiri
  - Sezaryen
  - D/C
  - Myomektomi
  - Endometrial ablasyon
- Multiparite
- İleri maternal yaş

ACOG, committe opinion no: 529

Risk faktörleri

Table 2. Link between number of previous caesarean sections and risk of placenta accreta, placenta praevia and hysterectomy[127]

Number of previous caesarean section(s)	Number of women	Number of women with placenta accreta	Chance of placenta accreta if placenta praevia	Number of hysterectomies
0	6201	15 (0.24%)	3%	40 (0.65%)
1	15 808	49 (0.31%)	11%	67 (0.42%)
2	6324	36 (0.57%)	40%	57 (0.9%)
3	1452	31 (2.13%)	61%	35 (2.4%)
4	258	6 (2.33%)	67%	9 (3.49%)
5	89	6 (6.74%)	67%	8 (8.99%)

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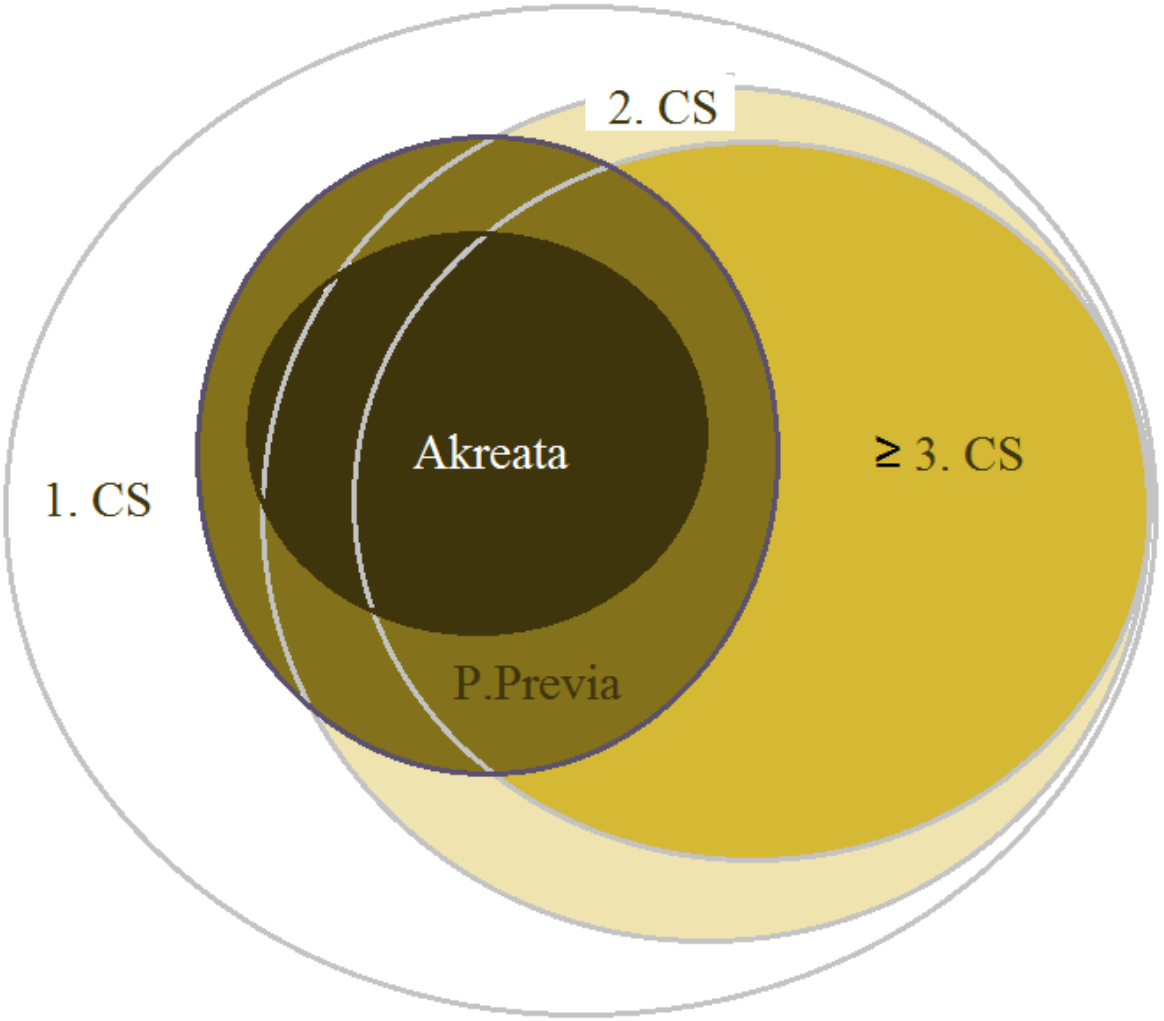
Green-top Guideline No. 27

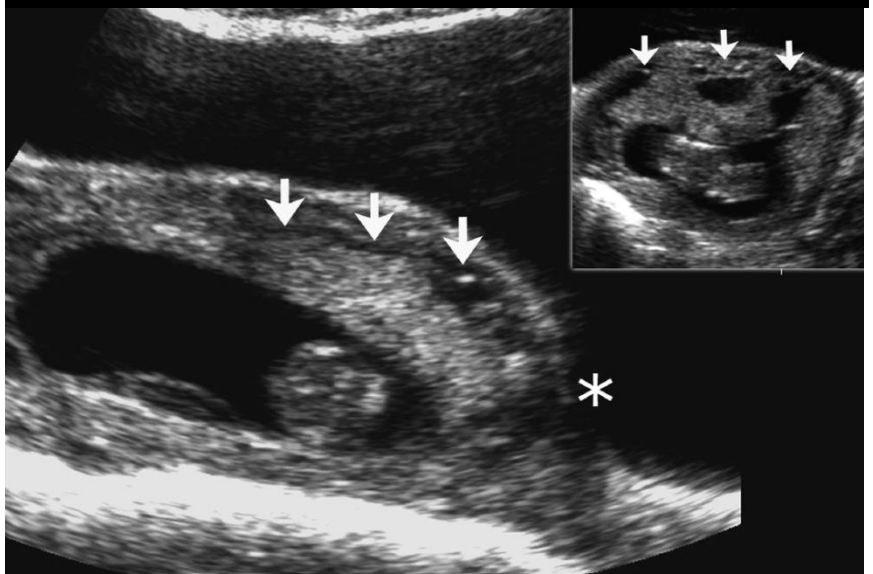
January 2011

Risk faktörleri



Antenatal Tanı

- 1. trimester
  - Yerleşmiş objektif bir kriter yok
  - Aşağı ve anterior yerleşimli kese (Comstock,2003)
  - Erken lakuna (Ballas,2013)



Antenatal Tanı

- 2. ve 3. trimester
  - Plasenta myometrium arasında hipoekoik sahanın yokluğu
  - Düzensiz mesane sınırları
  - Lakuna
  - İnce myometrium

Antenatal Tanı

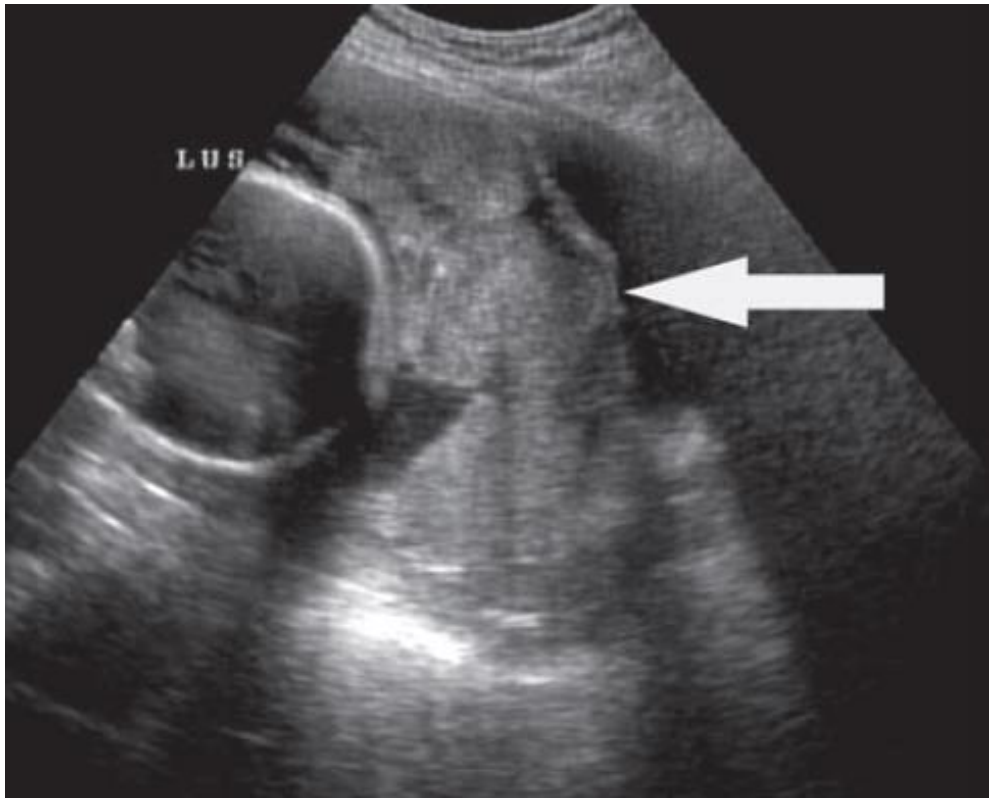
- Plasenta myometrium arasında hipoekoik sahanın yokluğu
  - Akkreata olgularının % 100’ ünde hipoekoik alan izlenmez.
  - % 65 yalancı pozitif; özellikle plasenta anterior yerleşimli ise.

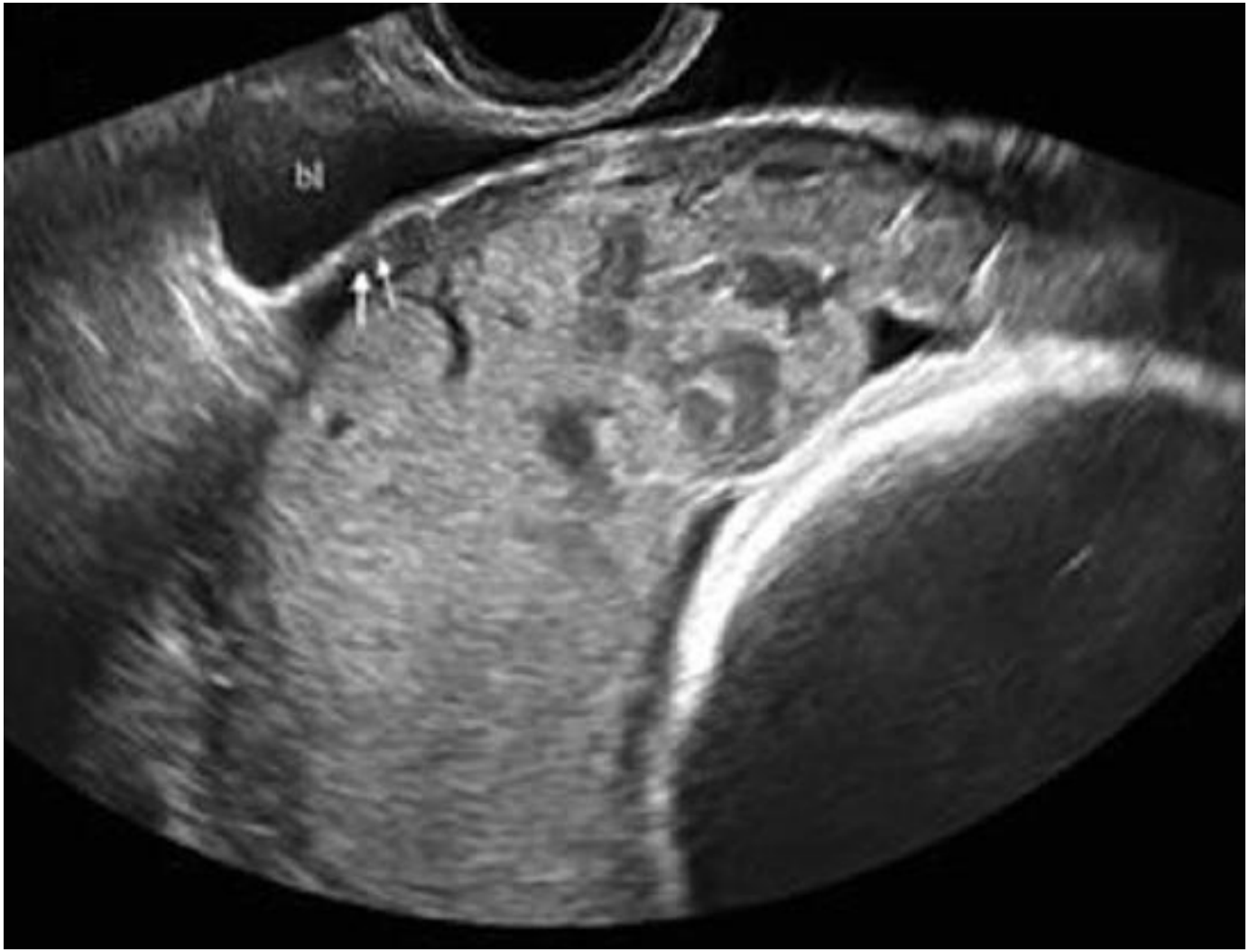
Antenatal Tanı

Antenatal Tanı

- Düzensiz mesane sınırları
  - Artmış vaskülarite nedeniyle oluşur.
  - Transvaginal usg ve Doppler ile daha iyi tanınabilir.
  - Düzensiz mesane sınırları yaygın olmadıkça PERKREATA' yı göstermez

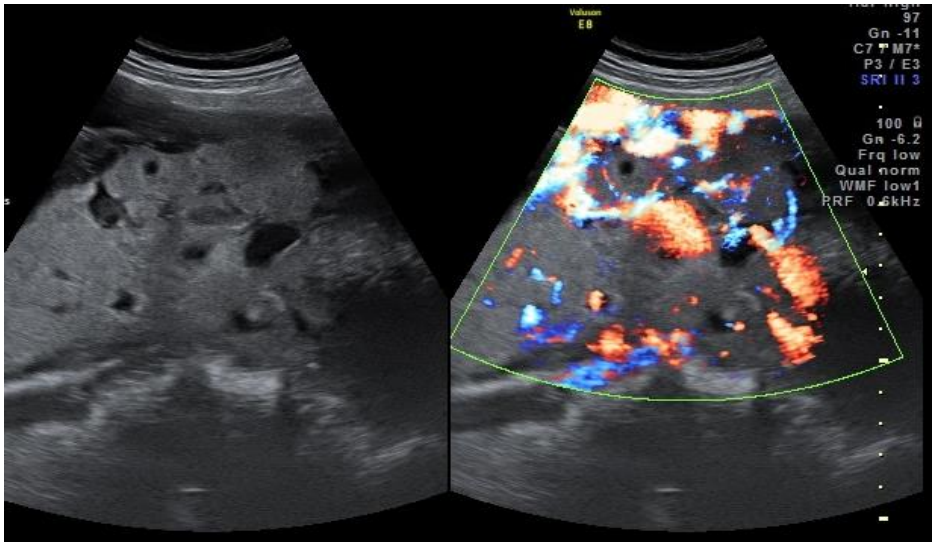
.




bl

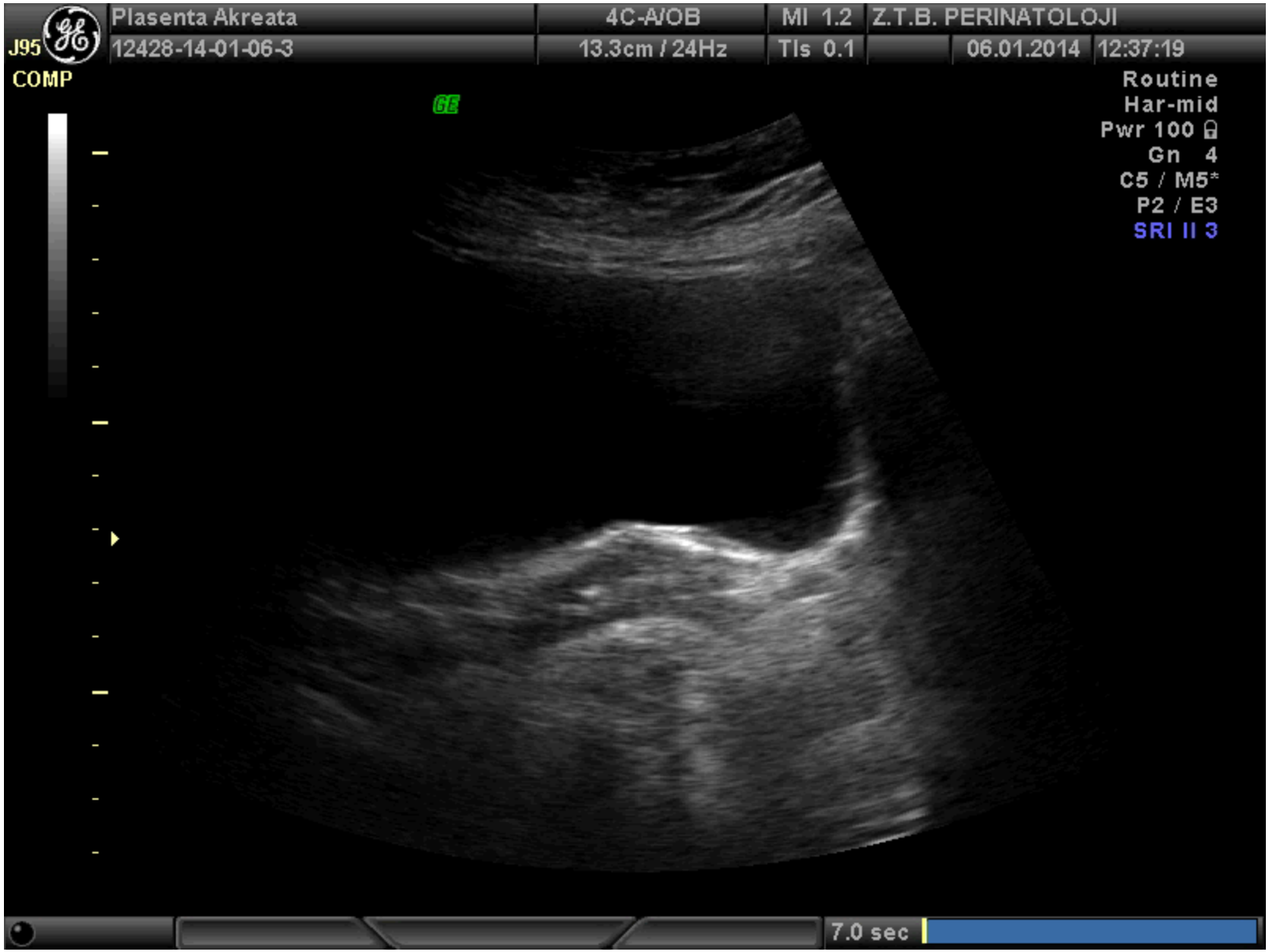
Antenatal Tanı

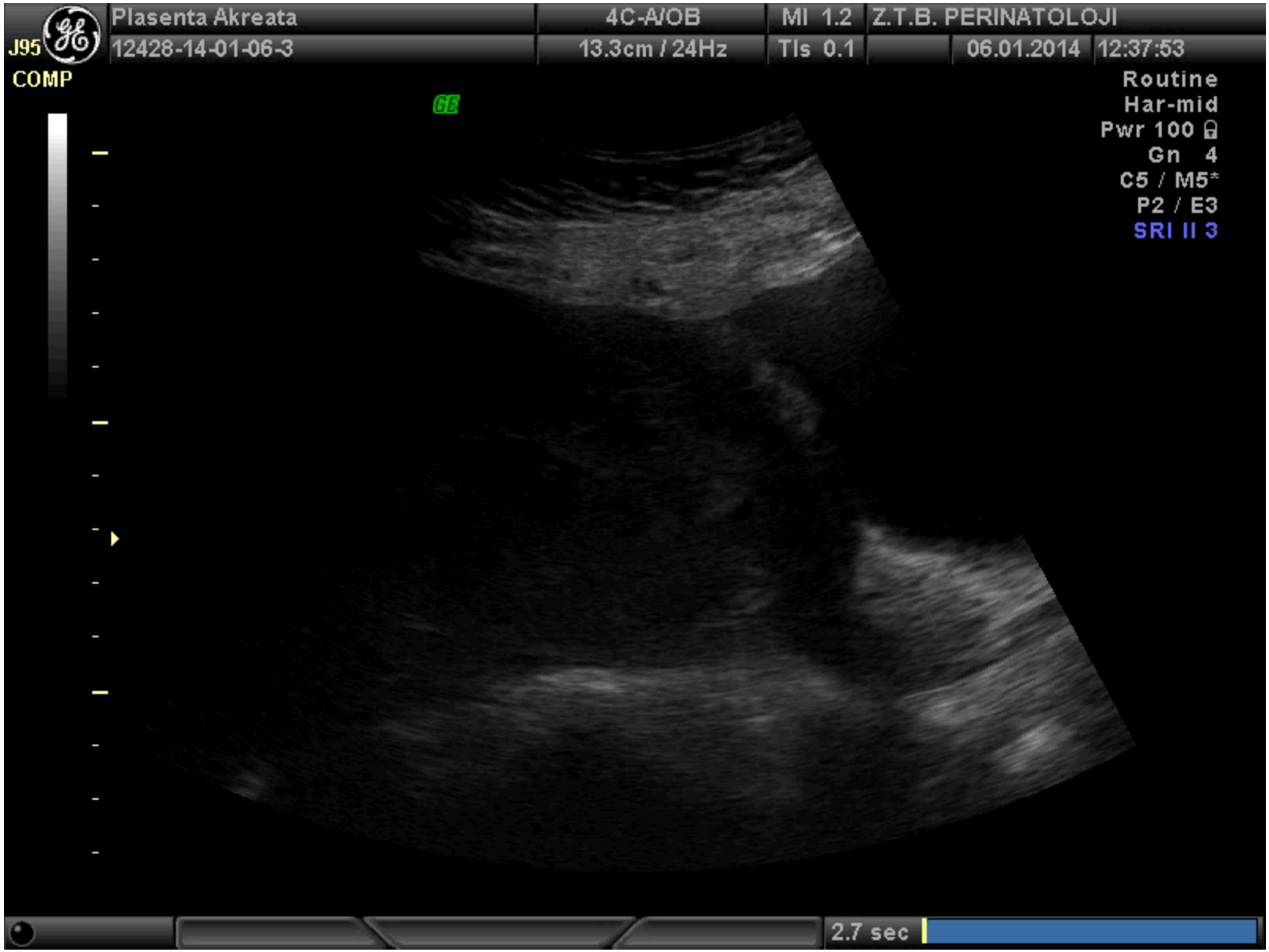
- Plasental lakuna
  - Düzensiz şekilli,
  - Düşük direnç, hızlı akım.
  - İkinci trimesterden itibaren saptanabilir

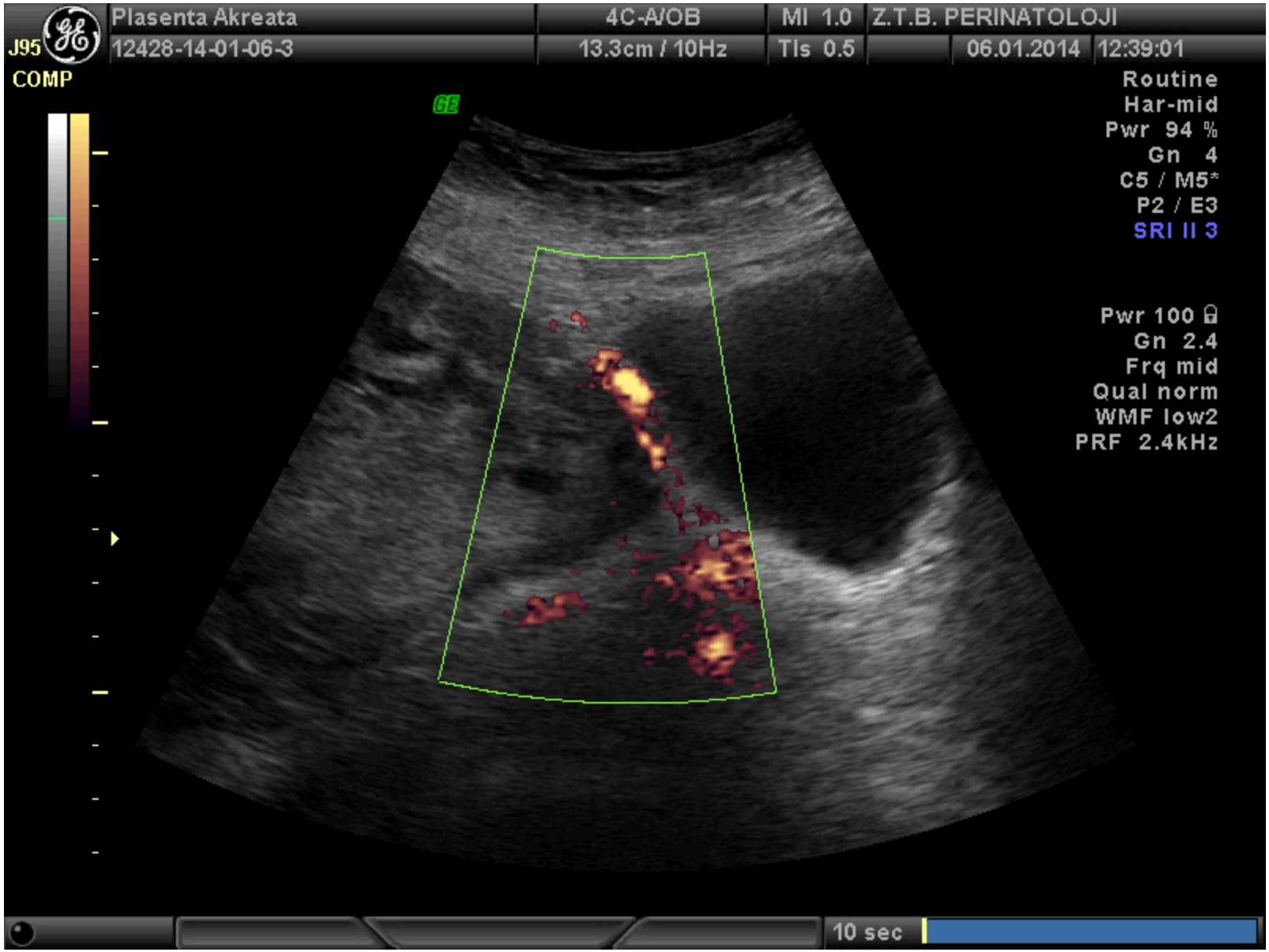


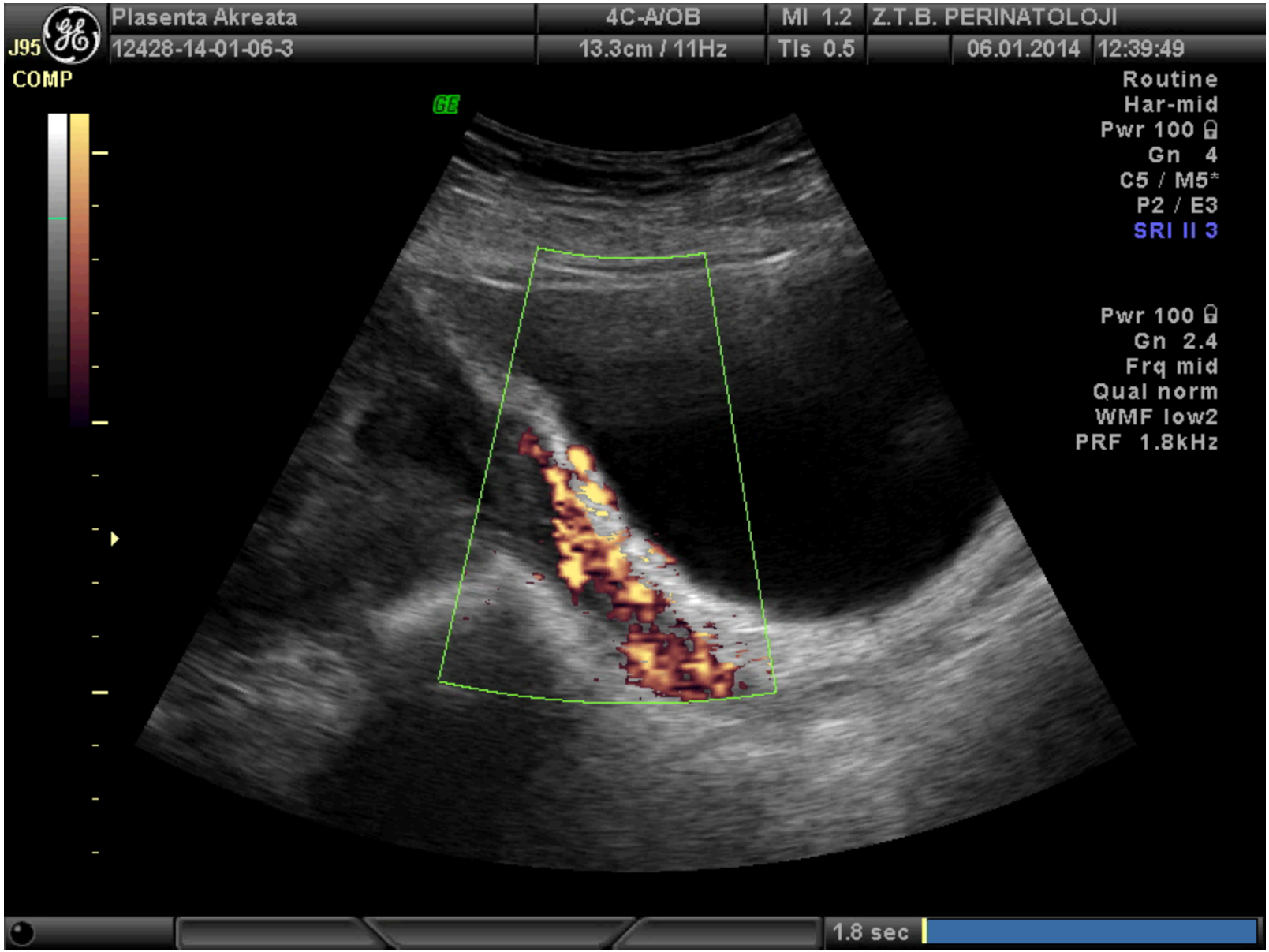
Antenatal Tanı

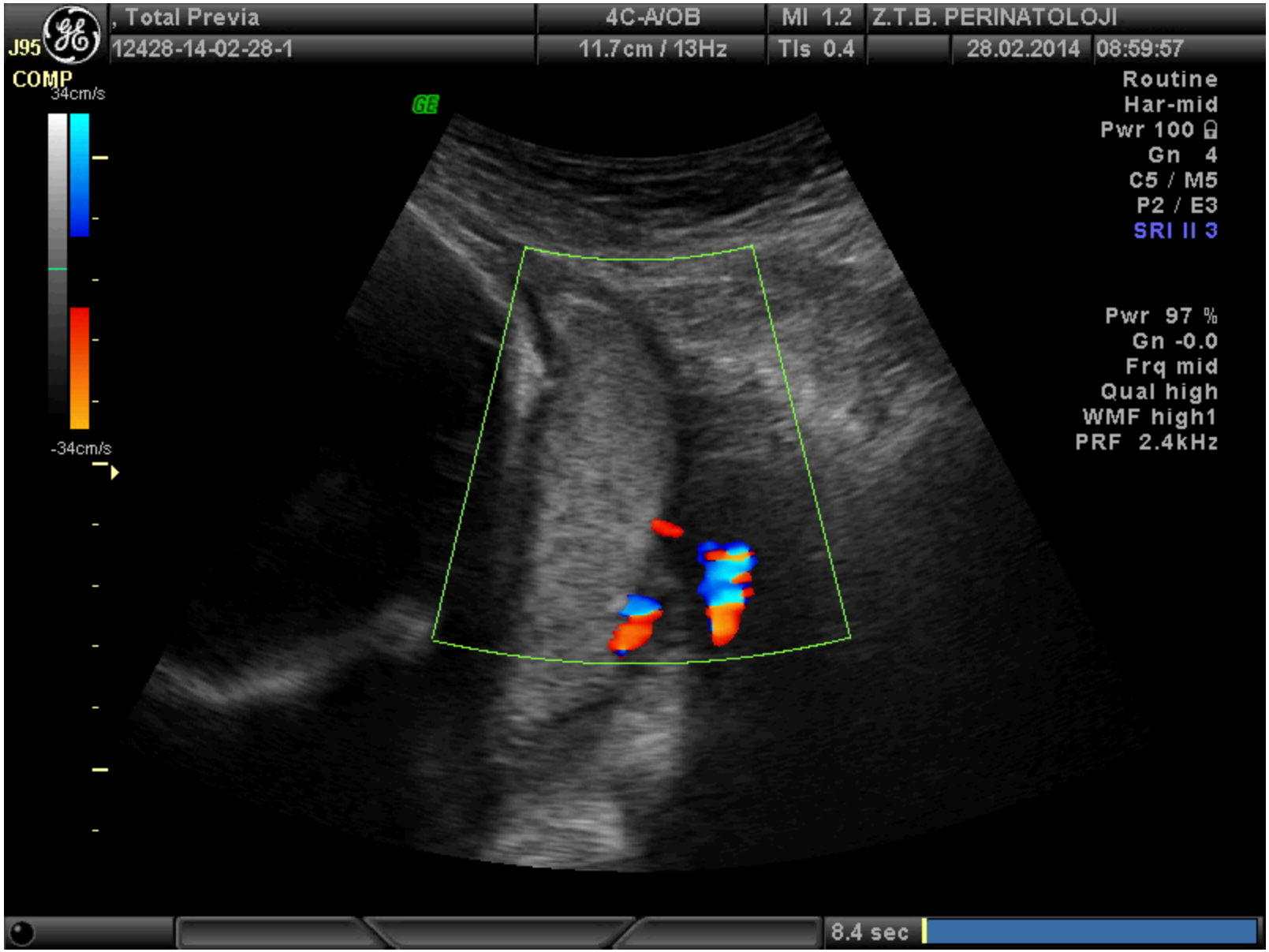
- İnce Myometrium

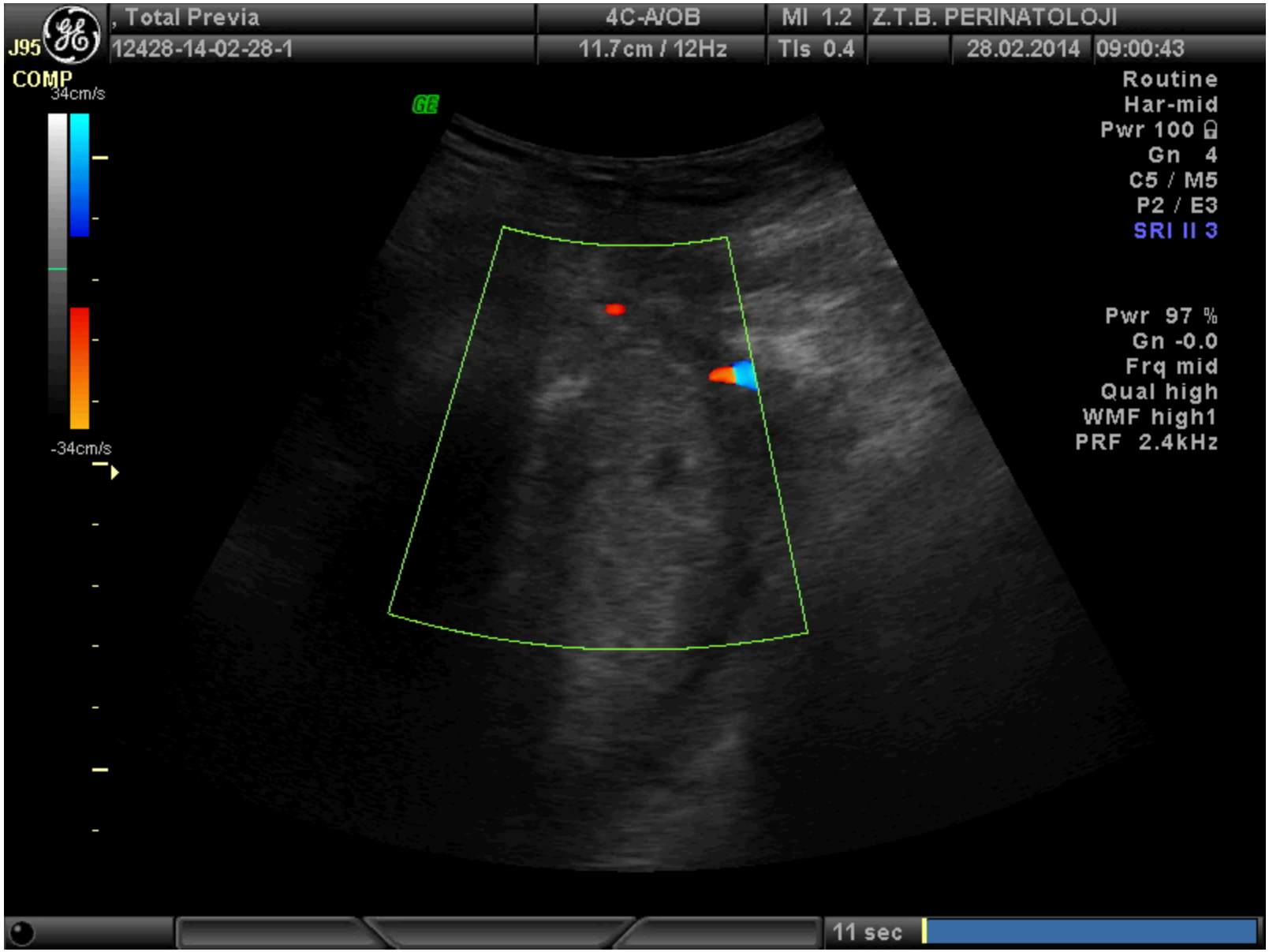

Plasenta Akreata
4C-A/OB
MI 1.2
Z.T.B. PERINATOLOJI
J95
12428-14-01-06-3
13.3cm / 24Hz
TIs 0.1
06.01.2014
12:37:19
COMP
Routine
Har-mid
Pwr 100
Gn 4
C5 / M5*
P2 / E3
SRI II 3
7.0 sec


Plasenta Akreata
4C-A/OB
MI 1.2
Z.T.B. PERINATOLOJI
J95
12428-14-01-06-3
13.3cm / 24Hz
TIs 0.1
06.01.2014
12:37:53
COMP
Routine
Har-mid
Pwr 100
Gn 4
C5 / M5*
P2 / E3
SRI II 3
2.7 sec


J95
COMP
Plasenta Akreata
12428-14-01-06-3
4C-A/OB
13.3cm / 10Hz
MI 1.0
TIs 0.5
Z.T.B. PERINATOLOJI
06.01.2014
12:39:01
Routine
Har-mid
Pwr 94 %
Gn 4
C5 / M5*
P2 / E3
SRI II 3
Pwr 100
Gn 2.4
Frq mid
Qual norm
WMF low2
PRF 2.4kHz
10 sec


J95
COMP
Plasenta Akreata
12428-14-01-06-3
4C-A/OB
13.3cm / 11Hz
MI 1.2
TIs 0.5
Z.T.B. PERINATOLOJI
06.01.2014
12:39:49
Routine
Har-mid
Pwr 100
Gn 4
C5 / M5*
P2 / E3
SRI II 3
Pwr 100
Gn 2.4
Frq mid
Qual norm
WMF low2
PRF 1.8kHz
1.8 sec


J95
, Total Previa
4C-A/OB
MI 1.2
Z.T.B. PERINATOLOJI
12428-14-02-28-1
11.7 cm / 13Hz
TIs 0.4
28.02.2014
08:59:57
COMP
34cm/s
-34cm/s
Routine
Har-mid
Pwr 100
Gn 4
C5 / M5
P2 / E3
SRI II 3
Pwr 97 %
Gn -0.0
Frq mid
Qual high
WMF high1
PRF 2.4kHz
8.4 sec


J95
, Total Previa
4C-A/OB
MI 1.2
Z.T.B. PERINATOLOJI
12428-14-02-28-1
11.7cm / 12Hz
TIs 0.4
28.02.2014
09:00:43
COMP
34cm/s
-34cm/s
Routine
Har-mid
Pwr 100
Gn 4
C5 / M5
P2 / E3
SRI II 3
Pwr 97 %
Gn -0.0
Frq mid
Qual high
WMF high1
PRF 2.4kHz
11 sec

Tanı: Doppler

Renkli Doppler

- Lakunalarda türbülan akım (PSV > 15 cm/sn).
- Subplasental dilate damarlar.
- Mesane sınırında artmış vaskülarizasyon.

3D power doppler

- Mesane sınırında çok sayıda damarsal yapı.
- Hipervaskülarite ve kaotik damarlanma.

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Tanı

Table 1. Diagnostic performance of different ultrasound modalities

	Sensitivity (%)	Specificity (%)	Positive predictive value (%)	Risk
Greyscale	95	76	82	93
Colour Doppler	92	68	76	89
Three-dimensional power Doppler	100	85	88	100

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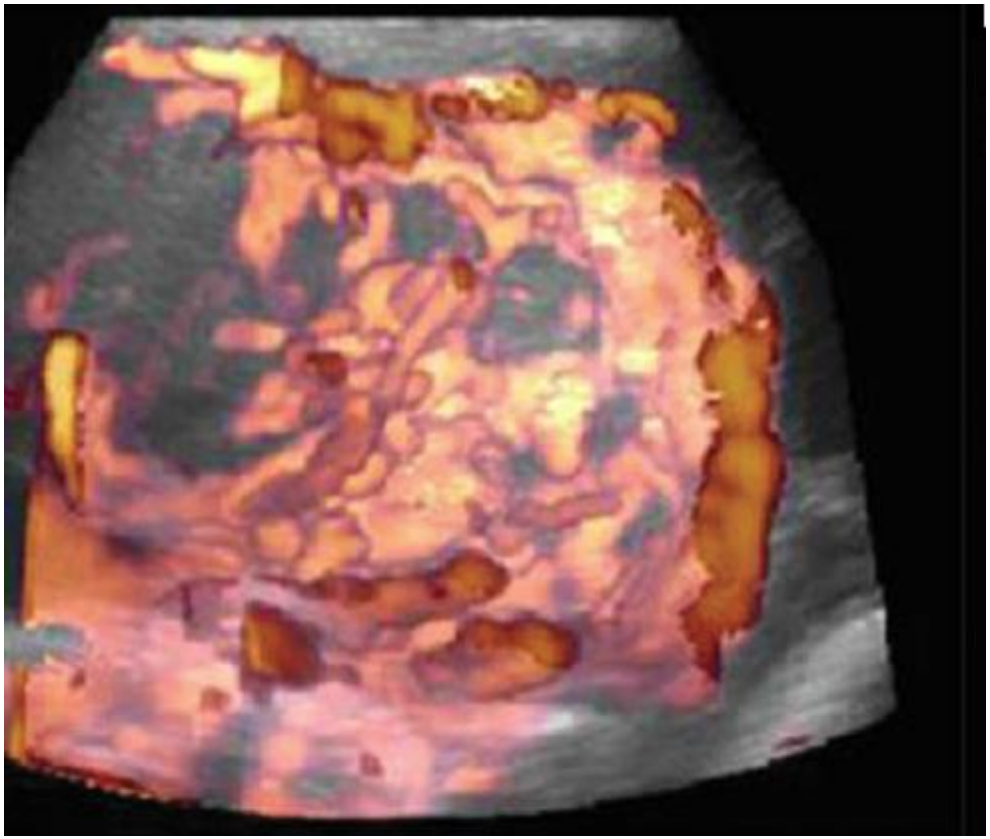
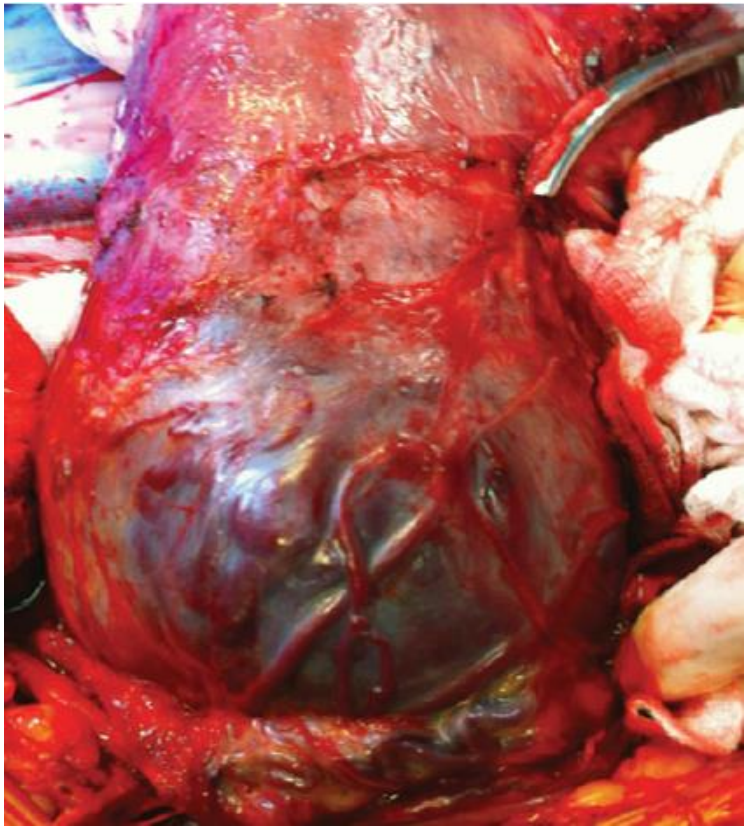
Tanı:3B Doppler





Calì et al. Ultrasound Obstet Gynecol 2013; 41: 406–412.

Tanı

	Sensitivite	Spesifisite	PPV	NPV
Hipoekoik zon yokluğu	73-100	35-80	14-57	96-100
Düzensiz mesane sınırları	11-70	99-100	75-100	88-92
Plasental lakuna	73-100	28-86	21-94	88-100
Myometrial kalınlık< 1	22-100	72-100	72-100	89-100

Comstock BJOG 2014;121:171–182.

DOĞUM ZAMANLAMASI

Effectiveness of Timing Strategies for Delivery of Individuals With Placenta Previa and Accreta

Barrett K. Robinson, MD, MPH, and William A. Grobman, MD, MBA

- 3 çalışma 400 akreata olgusunun verileri kullanılmış.
- Çeşitli tedavi modelleri sonrası antepartum kanama nedeniyle acil sezaryen, histerektomi ve neonatal morbidite riski araştırılmış

OBSTETRICS & GYNECOLOGY VOL. 116, NO. 4, OCTOBER 2010

Effectiveness of Timing Strategies for Delivery of Individuals With Placenta Previa and Accreta

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Table 1. Delivery Strategies

Strategy	Gestational Age at Scheduled Delivery (wk)
1	34 after steroid administration
2	35 after steroid administration
3	36
4	36 pending amniocentesis
5	37
6	37 pending amniocentesis
7	38
8	38 pending amniocentesis
9	39

Effectiveness of Timing Strategies for Delivery of Individuals With Placenta Previa and Accreta

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Table 4. Probabilities and Relative Risks for Maternal Outcomes

Outcome	Value
PPV of ultrasound for accreta[3]	0.65 (0.49–0.78)
Antepartum hemorrhage requiring delivery 34–35 wk[13,14,16,33]	0.18* (0–.30)
Antepartum hemorrhage requiring delivery 35–36 wk[13,14,16,33]	RR=1.0
Antepartum hemorrhage requiring delivery 36–37 wk[13,14,16,33]	RR=1.4
Antepartum hemorrhage requiring delivery 37–38 wk[13,14,16,33]	RR=1.96
Antepartum hemorrhage requiring delivery 38–39 wk[13,14,16,33]	RR=1.96

Table 3. Probabilities and Relative Risks for Fetal, Neonatal, Outcomes

Outcome	Probability or Relative Risk
RDS rate at 34 wk (with betamethasone)[18,26,27]	.064* (0.02–0.104)
RDS rate at 35 wk (with betamethasone)[18]	RR=0.50
RDS rate at 34 wk without betamethasone[17]	RR=2.05
RDS rate at 35 wk without betamethasone[17]	RR=1.00
RDS rate at 36 wk without betamethasone[17]	RR=0.50
RDS rate at 37 wk without betamethasone[17]	RR=0.07
RDS rate at 38 wk without betamethasone[17]	RR=0.0055

Effectiveness of Timing Strategies for Delivery of Individuals With Placenta Previa and Accreta

Barrett K. Robinson, MD, MPH, and William A. Grobman, MD, MBA

- 34–37 haftada doğum.
- 34 haftadan sonra antenatal steroid ve doğum (Çoğu hasta).
- 37 haftada doğum (akreata şüpheli, kanama riski düşük hastalar).
- 36 haftaya ulaşmış hastalarda pulmoner maturasyon testlerinin faydası yok

OBSTETRICS & GYNECOLOGY VOL. 116, NO. 4, OCTOBER 2010

Doğum zamanlaması

- Kanama nedeniyle acil girişim riski (37hf. sonra %40-90)
- 32hf. önce kanama nadir
- Plasenta previa 38-39hf, plasenta akreata 36hf (RCOG)
- ACOG'un net bir önerisi yok: pulmoner maturasyon bakılmadan steroid ile 34+ hafta!!

Cerrahi yönetim

- Deneyimli obstetrik cerrah
- Gereğinde vasküler cerraha, üroloğa ulaşabilme
- Deneyimli obstetrik anestezist
- Kan ve kan ürünleri
- Yoğun Bakım
- Yenidoğan yoğun bakım

Cerrahi yönetim

- GA-ÜM kesi
- Plasentadan uzak uterus insizyonu
- **Plasentaya dokunma (ekstirpasyon ciddi kanamaya neden olur)**
- Histerektomi planı

Histerektomi

- Plasentayı yerinde bırak
- Uterusu hızla kapat
- Mesane hazırlığını arter ligasyonundan sonra yap (ACOG)
- Cerrahiyi tehlikeye sokacak invazyon varsa veya obstetrik hikaye gerektiriyorsa konservatif tedavi düşün (RCOG)

AOGS
ACTA Obstetricia et Gynecologica Scandinavica

AOGS COMMENTARY

Important surgical measures and techniques at cesarean hysterectomy for placenta previa accreta

SHIGEKI MATSUBARA[1,*], TOMOYUKI KUWATA[1], RIE USUI[1], TAKASHI WATANABE[1], AKIO IZUMI[1], AKIHIDE OHKUCHI[1], MITSUAKI SUZUKI[1] & MANABU NAKATA[2]

Table 1. Summary of the procedures.

1. Placement of intra-iliac arterial occlusion balloon catheters
2. Placement of ureter stents
3. Employment of "holding the cervix" to identify the site to be transected
4. Uterine fundal incision to deliver an infant
5. Avoidance of uterotonics after infant delivery
6. Employment of "M cross double ligation" for ligating the ovarian ligament
7. Employment of "filling the bladder" to identify the bladder separation site and "opening the bladder" for placenta previa percreta with bladder invasion
8. To continue to clamp the medial side of the parametrium or the cervix or employment of the "double edge pick-up" to ligate it.

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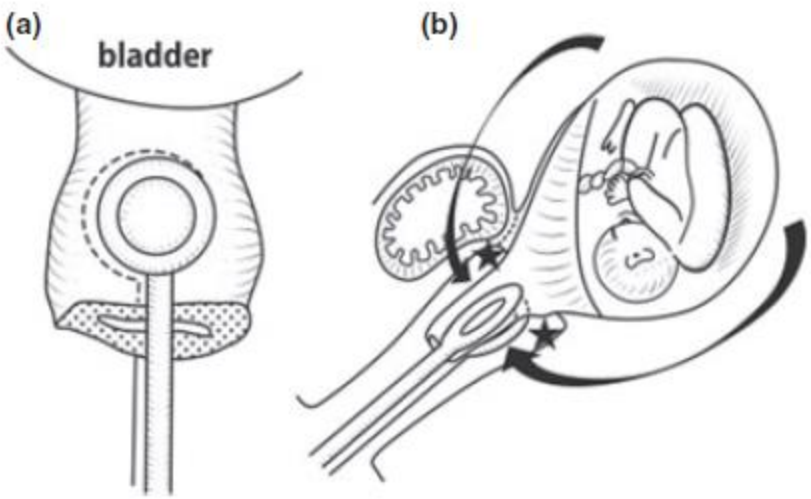
[1]Departments of Obstetrics and Gynecology, and [2]Radiology, Jichi Medical University, Shimotsuke, Japan

- Vajinal kanamanın engellenmesi
  - Serviks sınırlarının ayırt edilmesi
  - Alternatif olarak arka fornikse tampon (bizim uygulamamız)



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- Sezaryen histerektomide uterotonik uygulaması
  - Tartışmalı
  - Yazarlara göre: plasentanın kısmi ayrılmasını indükler, abondan kanamaya neden olur
  - Ancak RCOG görece atonik alt segmentten kan kaybını azalttığı için uterotonik kullanımını öneriyor.

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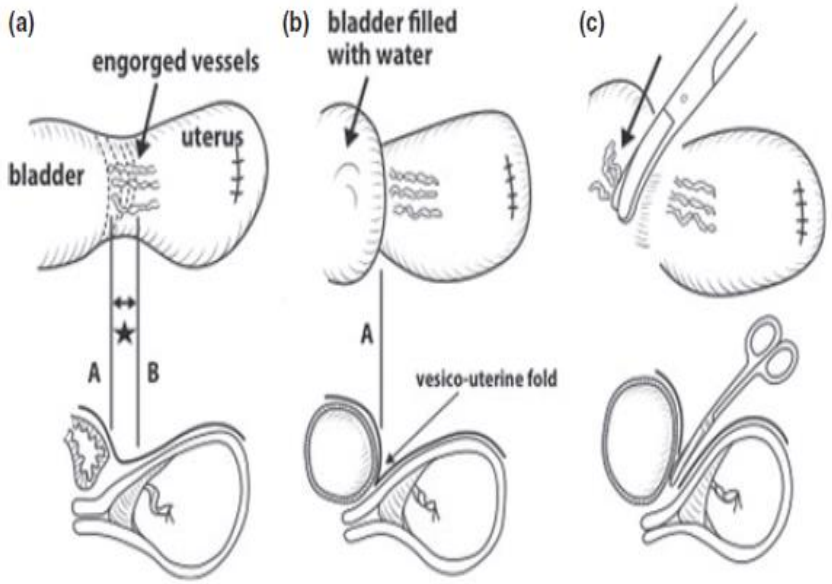
[1]*Departments of Obstetrics and Gynecology, and* [2]*Radiology, Jichi Medical University, Shimotsuke, Japan*

- Mesanenin dolu olması
  - Mesane planının belirlenmesi



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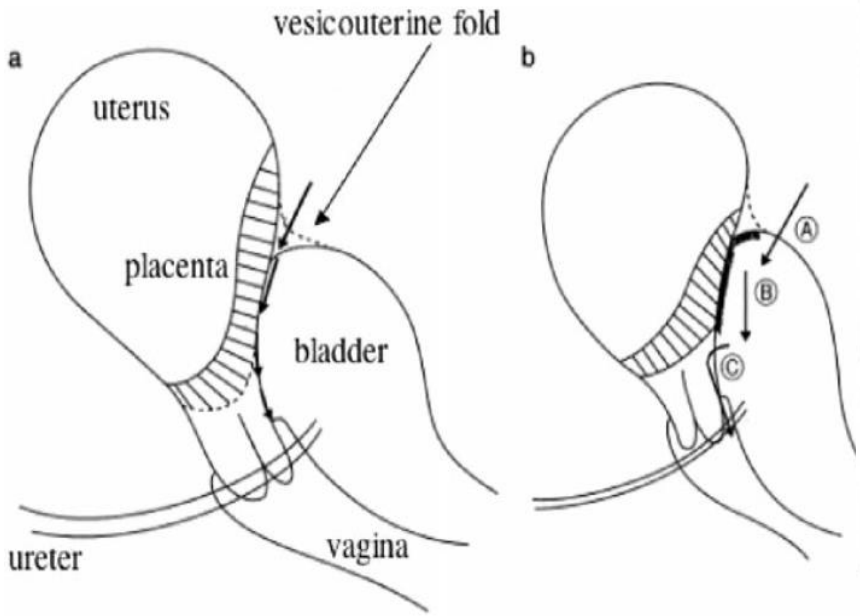
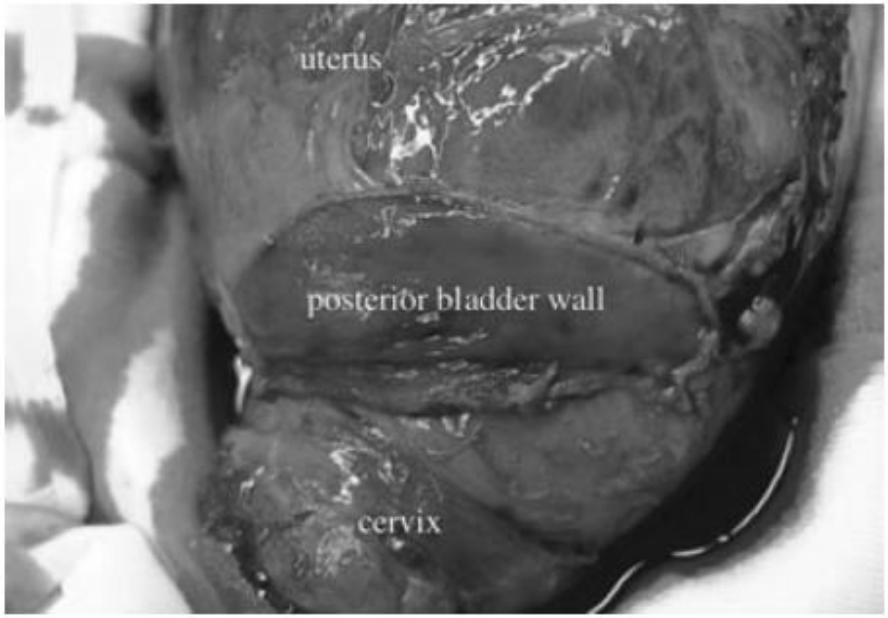
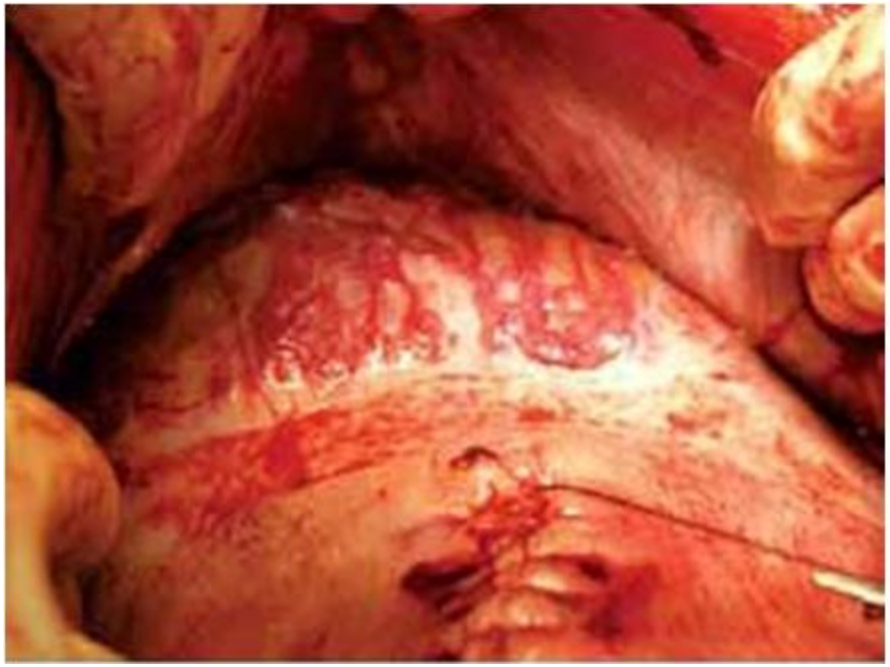
- Kasıtlı sistostomi

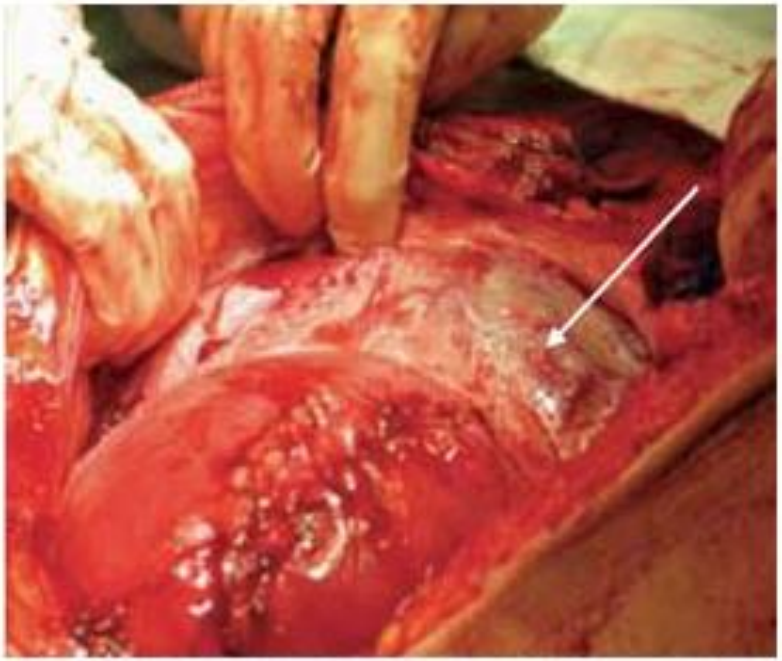




Konservativ Tedavi

Obsterik hikaye ve çocuk isteği





Konservativ davranmak zorunda kalmak

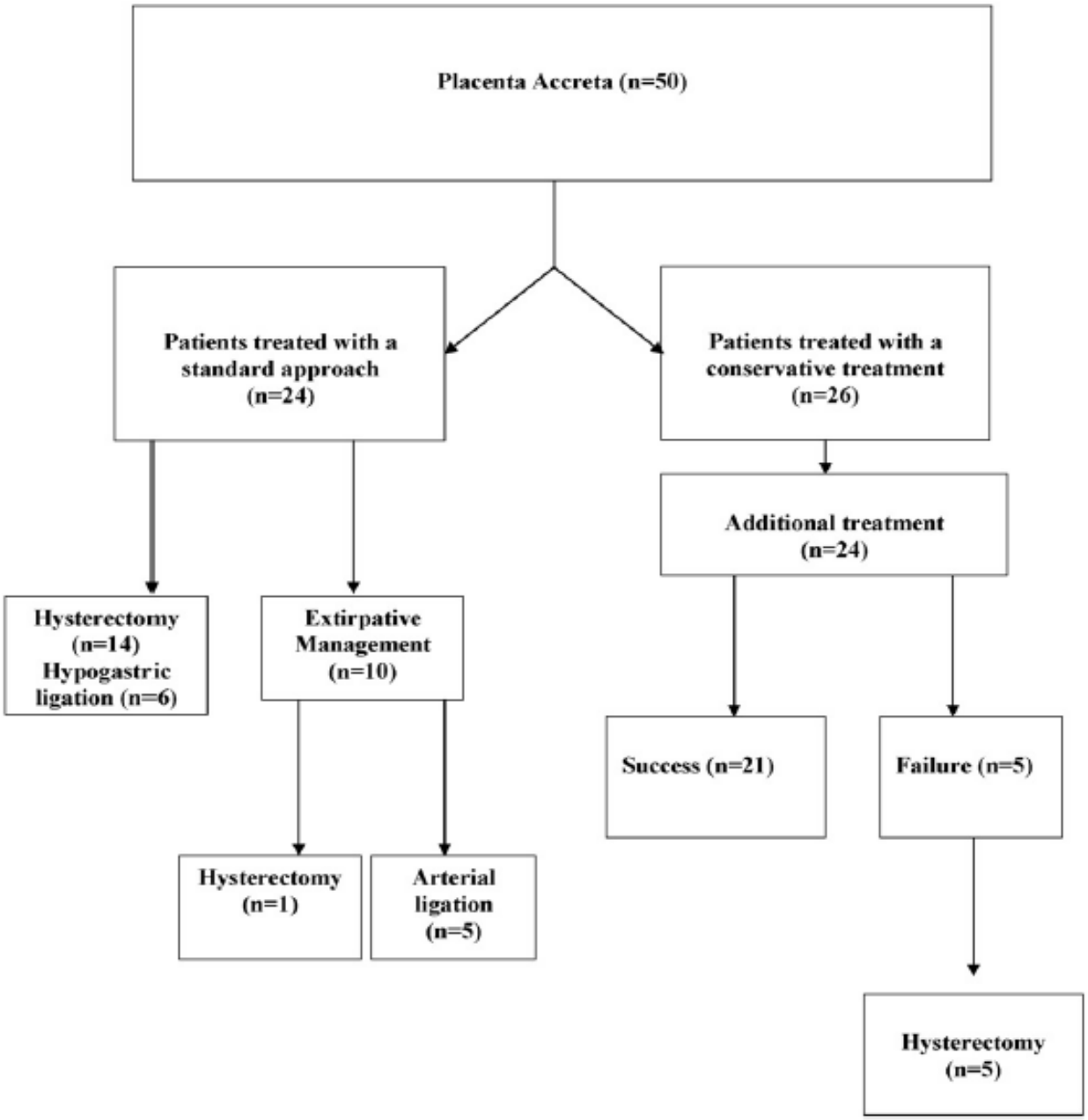
Management of placenta accreta: Morbidity and outcome

Florence Bretelle [a,b,*], Blandine Courbière [a], Chafika Mazouni [a], Aubert Agostini [a], Ludovic Cravello [a], Léon Boubli [b], Marc Gamerre [a], Claude D'Ercole [b]

[a] *Department of Obstetrics and Gynecology of Conception Hospital, University of Mediterranee, Pr Gamerre, Marseille, France*
[b] *Department of Obstetrics and Gynecology of North Hospital, University of Mediterranee, Pr Boubli, Marseille, France*

Received 25 October 2005; received in revised form 17 July 2006; accepted 18 July 2006

- İki üniversite hastanesi 10 yıl (1993-2003)
- 41000 doğum
- 50 plasenta akreata (7 perkreata)(%0,12)
- 26 hastaya konservativ yaklaşım (4 perkrata)


Placenta Accreta (n=50)
Patients treated with a standard approach (n=24)
Patients treated with a conservative treatment (n=26)
Additional treatment (n=24)
Hysterectomy (n=14) Hypogastric ligation (n=6)
Extirpative Management (n=10)
Success (n=21)
Failure (n=5)
Hysterectomy (n=1)
Arterial ligation (n=5)
Hysterectomy (n=5)

Additional procedure in conservative treatment of placenta accreta

	Number of cases ($n = 26$)	Adjuvant MTX
BLHA	6	2
Arterial ligation	7	2
Embolization	4	–
MTX	1	–
Oxytocin	2	–
Oxytocin and PGE2	6	–
No additional treatment	2	

BLHA, bilateral ligation of hypogastric arteries; AL, Tsirulnikov arterial ligation; MTX, isolated methotrexate treatment. Oxytocin, oxytocin and PGE2 was administered in addition to BLHA, AL and MTX. A patient can have more than one treatment.

Hasta özellikleri

Histerektomi / plasental ekstirpasyon (24 hasta)

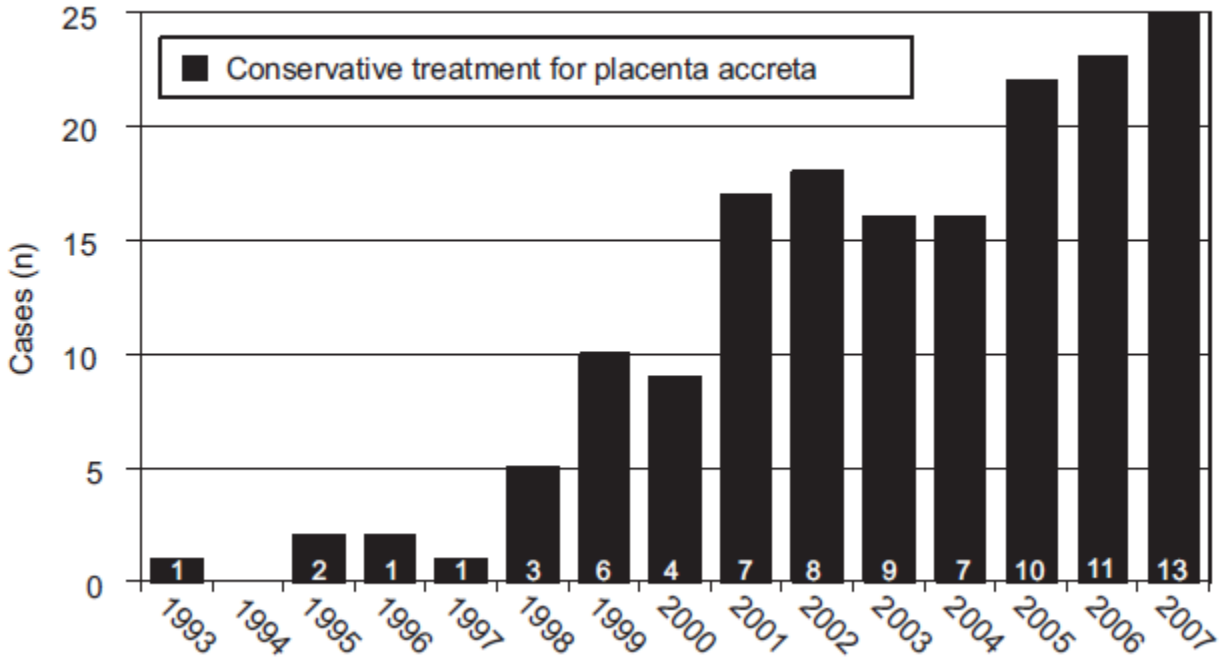
- Kanama : 10
- Anne yaşı >37 : 6
- Fertilite istemeyen : 4
- Cerrahın kons. deneyimsizliği: 4

Konservativ yaklaşım (26 hasta)

- Şiddetli kanama yok : 10
- Çocuk istemi : 6
- Anne yaşı <37: 10

Tedavi başarısızlığı

- 5 olgu
- 3 hasta ilk iki saat içinde histerektomi
  - 1 hastada triple devaskülarizasyon (Round, uteroovaryan ligamanlar, uterin arter)
  - 2 hastada ek tedavi yok
- 2 hastada arterial embolizasyon sonrası komplikasyonlar
  - 1 hastada uterin nekroz
  - 1 hastada sol bacakta tromboz, antikoagülasyon ihtiyacı nedeniyle histerektomi


Conservative treatment for placenta accreta
Cases (n)
25
20
15
10
5
0
1
2
1
1
3
6
4
7
8
9
7
10
11
13
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007

Maternal Outcome After Conservative Treatment of Placenta Accreta

- Fransa , 40 üniversite hastanesi, retrospektif
- Önceki çalışmayı kapsıyor.
- 14 yıl (1993-2007)
- 311 plasenta akreata
- 167 konservatif tedavi (139 C/S, 28 vaginal)

Characteristic	Placenta Accreta, Including Percreta (n=167)
Hysterotomy (n=139)	
Fundal	71 (51.1)
Low transverse	68 (48.9)
Placenta left in situ	167 (100)
Partially	99 (59.3)
Entirely	68 (40.7)
Preoperative ureteric stent placement	6 (3.6)
Uterotonic administration	167 (100)
Primary postpartum hemorrhage	86 (51.5)
No additional uterine devascularization procedure	58 (34.7)
Additional uterine devascularization procedure	109 (65.3)
Pelvic arterial embolization*	62 (37.1)
Vessel ligation*	45 (26.9)
Stepwise uterine devascularization	15 (9.0)
Hypogastric artery ligation	23 (13.8)
Stepwise uterine devascularization and hypogastric artery ligation	7 (4.2)
Uterine compression suture*	16 (9.6)
Balloon catheter occlusion	0
Methotrexate administration	21 (12.6)

Table 4. Maternal Morbidity After Conservative Treatment for Placenta Accreta, Including Placenta Percreta

Characteristic	Placenta Accreta, Including Percreta (n=167)
Primary hysterectomy	18 (10.8)
Cause of primary hysterectomy	
Primary postpartum hemorrhage	18/18 (100)
Transfusion patients	70 (41.9)
Units of packed RBCs transfused more than 5	25 (15.0)
Sepsis*	7 (4.2)
Infection	47 (28.1)
Deep vein thrombophlebitis or pulmonary embolism	3 (1.8)
Secondary postpartum hemorrhage stopped after	18 (10.8)
Uterotonics	2/18 (11.1)
Manual exploration of the uterus	2/18 (11.1)
Hysteroscopy and curettage	2/18 (11.1)
Pelvic arterial embolization	4/18 (22.2)
Delayed hysterectomy	8/18 (44.5)
Delayed hysterectomy	18 (10.8)
Median interval from delivery to delayed hysterectomy (d)	22 (9–45)
Cause of delayed hysterectomy	
Secondary postpartum hemorrhage	8/18 (44.4)
Sepsis	2/18 (11.1)
Secondary postpartum hemorrhage and sepsis	3/18 (16.7)
Vesicouterine fistula	1/18 (5.6)
Uterine necrosis and sepsis†	2/18 (11.1)
Arteriovenous malformation	1/18 (5.6)
Maternal request	1/18 (5.6)
Death	1 (0.6)
Success of conservative treatment	131 (78.4)
Severe maternal morbidity	10 (6.0)

Konservativ tedavi kime?

- Randomize çalışmalar veya prospektiv kohort çalışmalar yok.
- 1 retrospektiv çalışma (Amsalem, 2011)
- 86 placenta accreata, 60 hasta acil – accidental 26 hastaya antenatal tedavi planlanmış
- Konservativ grup (n:10) histerektomi grubuna (n:16) göre:
  - Kan kaybı daha az (3625 ± 2154 vs. 900 ± 754 mL)
  - Diğer sonuçlar benzer (koagülopati, organ yaralanması)
  - Konservativ izlenen 4 hastada histerektomi

AOGS REVIEW ARTICLE

Management of placenta percreta: a review of published cases

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Initial surgical procedure	Hysterectomy	Local resection	Placenta left in situ	*Sum*
No. of cases	66 (56%)	17 (14%)	36 (30%)	119
Mode of cesarean section				
Elective	41 (62%)	16 (94%)	20 (56%)	77 (65%)
Emergency	8 (12%)	1 (6%)	15 (42%)	24 (20%)
Unspecific	17	0	1	18
Complications				
Bladder injury/resection	11	0	6	17
Salpingo-oophorectomy	1	0	1	2
Post-operative hemorrhage	5	2	16	23
Post-operative infection	1	0	9	10
Fistula	2	0	1	3
Pulmonary embolism/cardiopulmonary arrest	1	0	3	4
Femoral pseudoaneurysm or distal thrombus	4	2	0	6
Other re-operation	1	1	3	5
Sum	26	5	39	70
Secondary hysterectomy				
Emergency	–	0	18	18
Planned	–	0	3	3
Cases with one or more complications 0–24 h	19 (30%)	2 (12%)	9 (25%)	30
Cases with one or more complications >24 h	8 (12%)	2 (12%)	22 (61%)	32

Konservativ tedavi NEREDE?

- Tersiyer merkez
  - Kan bankası
  - Girişimsel radyoloji
  - Yoğun bakım
  - Multidisipliner ekip

Konservativ tedavi NASIL?

1. Cilt insizyonu
   - Plasentadan uzak bir alana ulaşılabilmeli (vertikal)
2. Uterin insizyon
   - Fundal
   - Plasentadan uzakta
3. Plasental Manupilasyon
   - akreata ise dokunma
   - Şüpheli ise hafif traksiyon? Spontan ayrılma beklenebilir (korddan synpitan),
   - Ayrılmış plasental yüzey eksize edilebilir

Konservativ tedavi NASIL?

3. Kanamayı Değerlendir
   - Hemodinami
   - Transfüzyon ihtiyacı
4. Ek Girişim

   Hipogastrik arter ligasyonu

   2 li (uterin- uteroovaryan) 3 lü (uterin- uteroovaryan-round) ligasyon
   Balon
   Lynch sütürü
5. Uterotonik
   - Oksitosin, prostoglandin
   - Metil ergonovine (?) çalışmalarda kullanılmamış

Konservativ tedavi NASIL?

6. Methotrexate
   - Veriler olgu sunumları şeklinde/yetersiz
   - Term plasentada hücre turnover ilk trimesterden çok daha yavaş
   - Yan etkileri nedeniyle (sitopeni) akut kanama yönetimini olumsuz etkileyebilir
   - Geniş retrospektif iki seride kullanım oranı % 12-20 (Bretelle,2005 Sentilhes, 2010)

Rutin kullanılmamalı (RCOG)

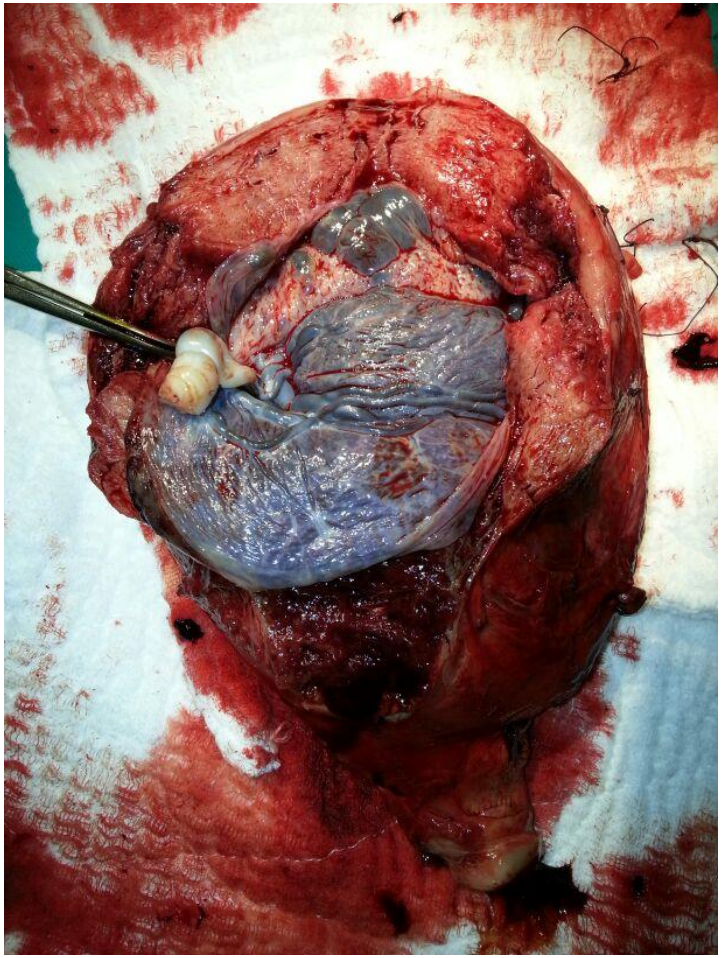
Konservativ tedavi NASIL?

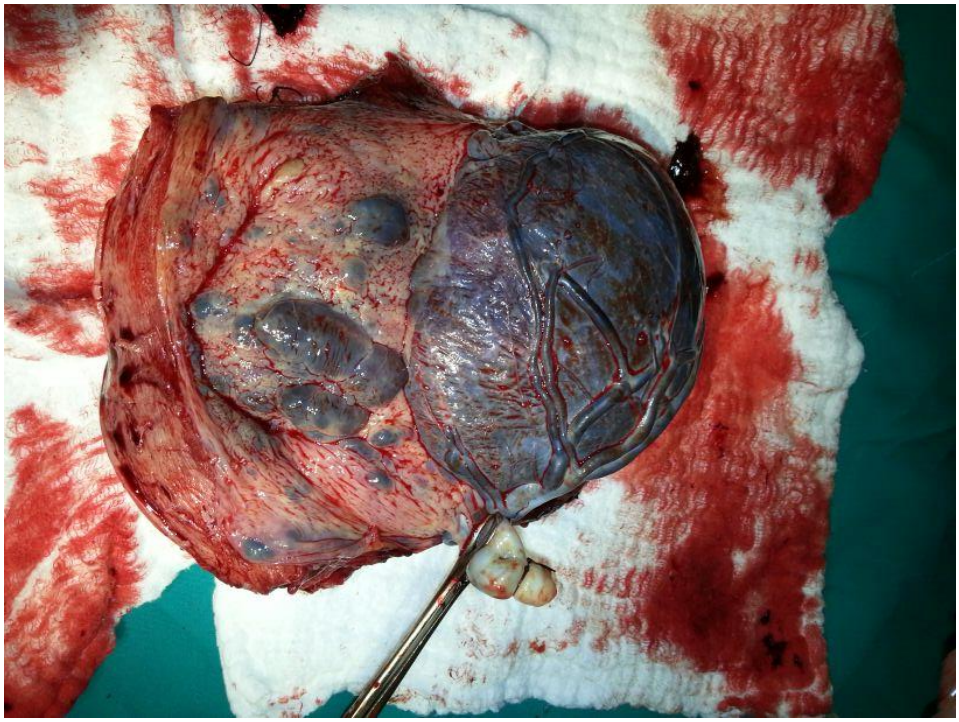
- Embolizasyon -selektiv pelvik arterial
  - Hemodinamik olarak stabil hastalarda
  - Tecrübeli ekip ve donanım gereksinimi
  - İşleme bağlı % 5 major komplikasyon oranı (Sentilhes, 2010)

Sonuç

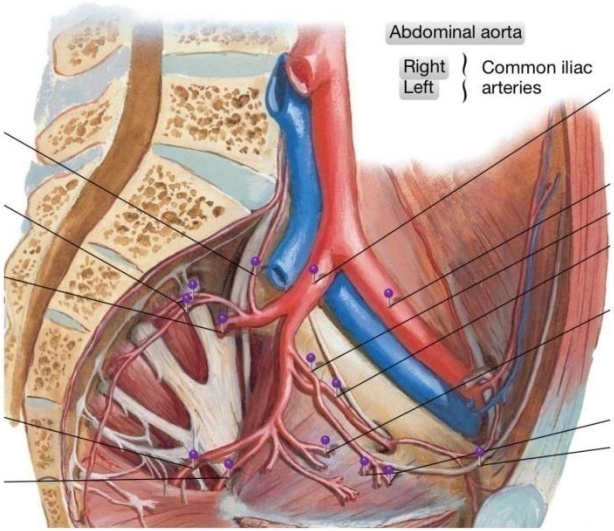
- Konservativ tedavinin planlı sezaryen histerektomiye kıyasla morbidite avantajı yok.

  Tüm çalışmalar retrospektiv (muhtemel selection bias)
- Konservativ tedavi ile uzun dönem yakın takip gerekli
- Mesane invazyonu varsa cerrahi daha riskli olabilir
- Fertilite arzusu olmayan hastalarda sezaryen histerektomi standart tedavi olmalı

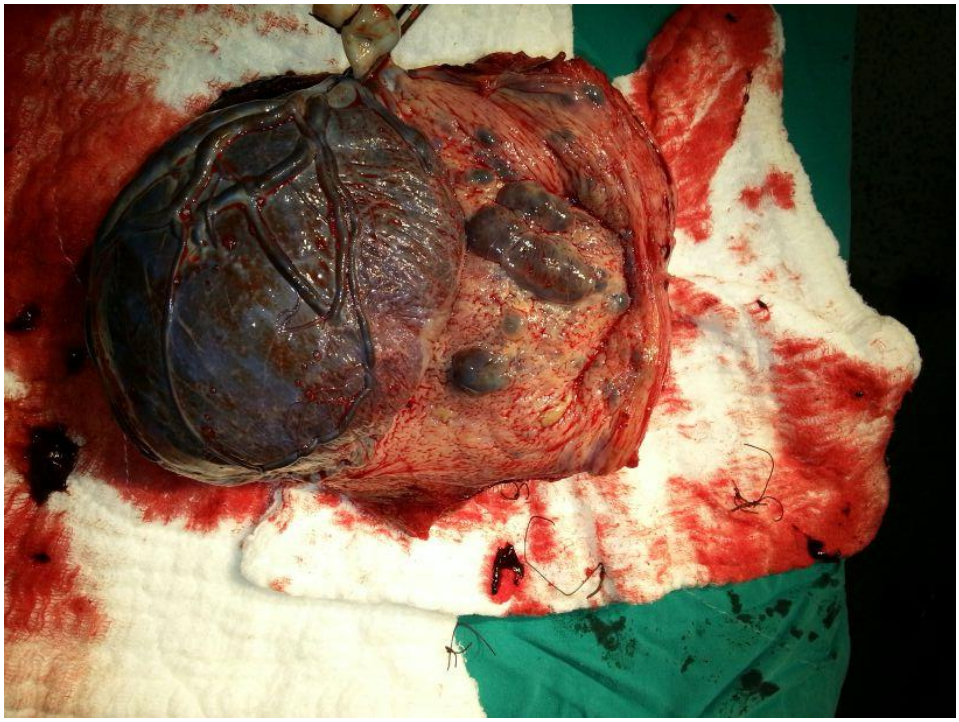




Hipogastrik arter ligasyonu



Round lig. keserek başla,
önce üreteri,
sonra common iliak arteri bul,
posterior dalı mutlaka belirle



Sonuç

- Konservatif tedavi ile planlı sezaryen histerektomi maternal morbidite yönünden benzer.
- Mesane invazyonu varsa cerrahi daha riskli olabilir
- Tüm çalışmalar retrospektif (muhtemel selection bias)
- Konservatif tedavi ile uzun dönem yakın takip gerekli
- Fertilite arzusu olmayan hastalarda sezaryen histerektomi standart tedavi olmalı

Tanı

	Sensitivite	Spesifisite	PPV	NPV
Hipoekoik zon yokluğu	73-100	35-80	14-57	96-100
Düzensiz mesane sınırları	11-70	99-100	75-100	88-92
Plasental lakuna	73-100	28-86	21-94	88-100
Myometrial kalınlık< 1	22-100	72-100	72-100	89-100
Gri skala	77-87	96-98	65-93	98

Doğum zamanlaması

Table 4. Probabilities and Relative Risks for Maternal Outcomes

Outcome	Value
PPV of ultrasound for accreta[3]	0.65 (0.49–0.78)
Antepartum hemorrhage requiring delivery 34–35 wk[13,14,16,33]	0.18* (0–.30)
Antepartum hemorrhage requiring delivery 35–36 wk[13,14,16,33]	RR=1.0
Antepartum hemorrhage requiring delivery 36–37 wk[13,14,16,33]	RR=1.4
Antepartum hemorrhage requiring delivery 37–38 wk[13,14,16,33]	RR=1.96
Antepartum hemorrhage requiring delivery 38–39 wk[13,14,16,33]	RR=1.96
Maternal ICU admission after scheduled peripartum hysterectomy[4,5]	0.07 (0.07–0.72)
Maternal ICU admission after emergent peripartum hysterectomy[4,5]	0.29 (0.07–0.72)
Maternal ICU admission after scheduled cesarean without intraoperative accreta[34,35]	0.017 (0.015–0.055)
Maternal ICU admission after emergent cesarean without intraoperative accreta[34,35]	0.055 (0.015–0.055)

	Sentilhes, 2010	Bretelle, 2005
Toplam hasta	167	26
Kanama • Primer • Sekonder	36 (21. 6 %) • 18 (10.8 %) • 18 (10.8 %)	?
Histerektomi • Primer kanama • Sekoder kanama • Kanama dışı neden	36 (21.6 %) • 18 (10.8 %) • 11 (6.6 %) • 7 (4.2 %)	5 (19 %) • 3 (12 %) • 0 •2 (8 %)
Ek morbidite	86 (52 %)	19 (75 %)
Ciddi morbidite	10 (6 %)	? (% 10 (3 olguda DIC))
Mortalite	1 (0.6 %)	0