



Placenta, Nabelschnur, Cervix

Rüdiger Hammer
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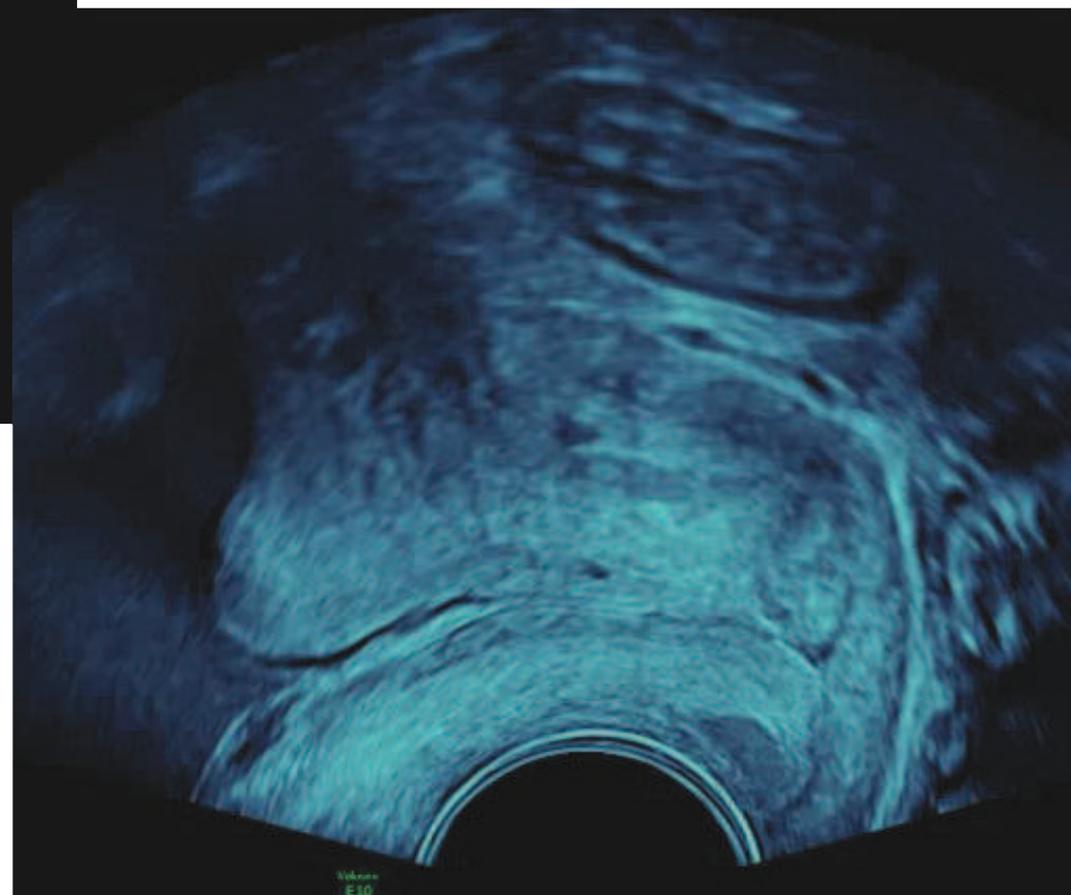
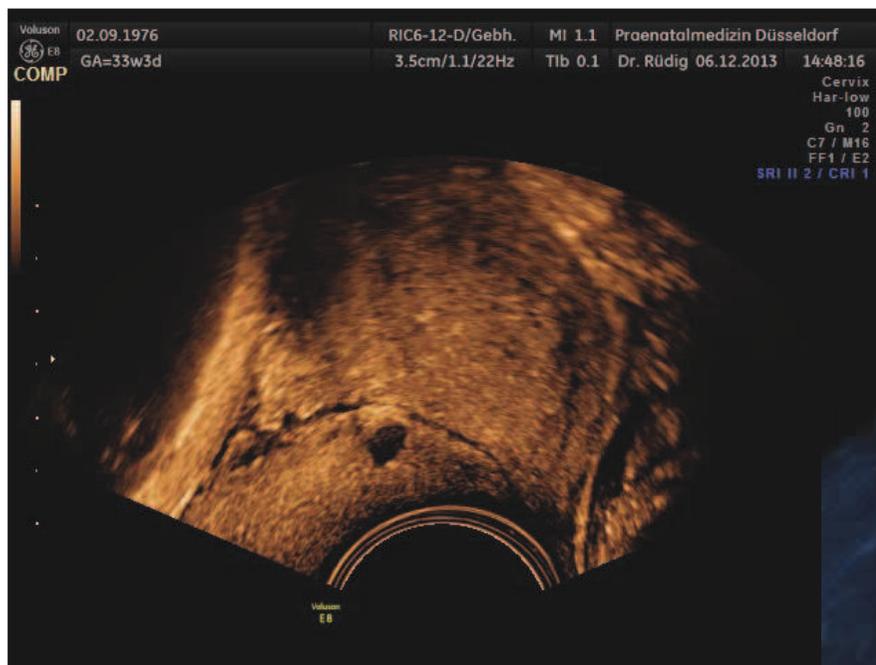
31.10.2015

Cervixultraschall: Technik

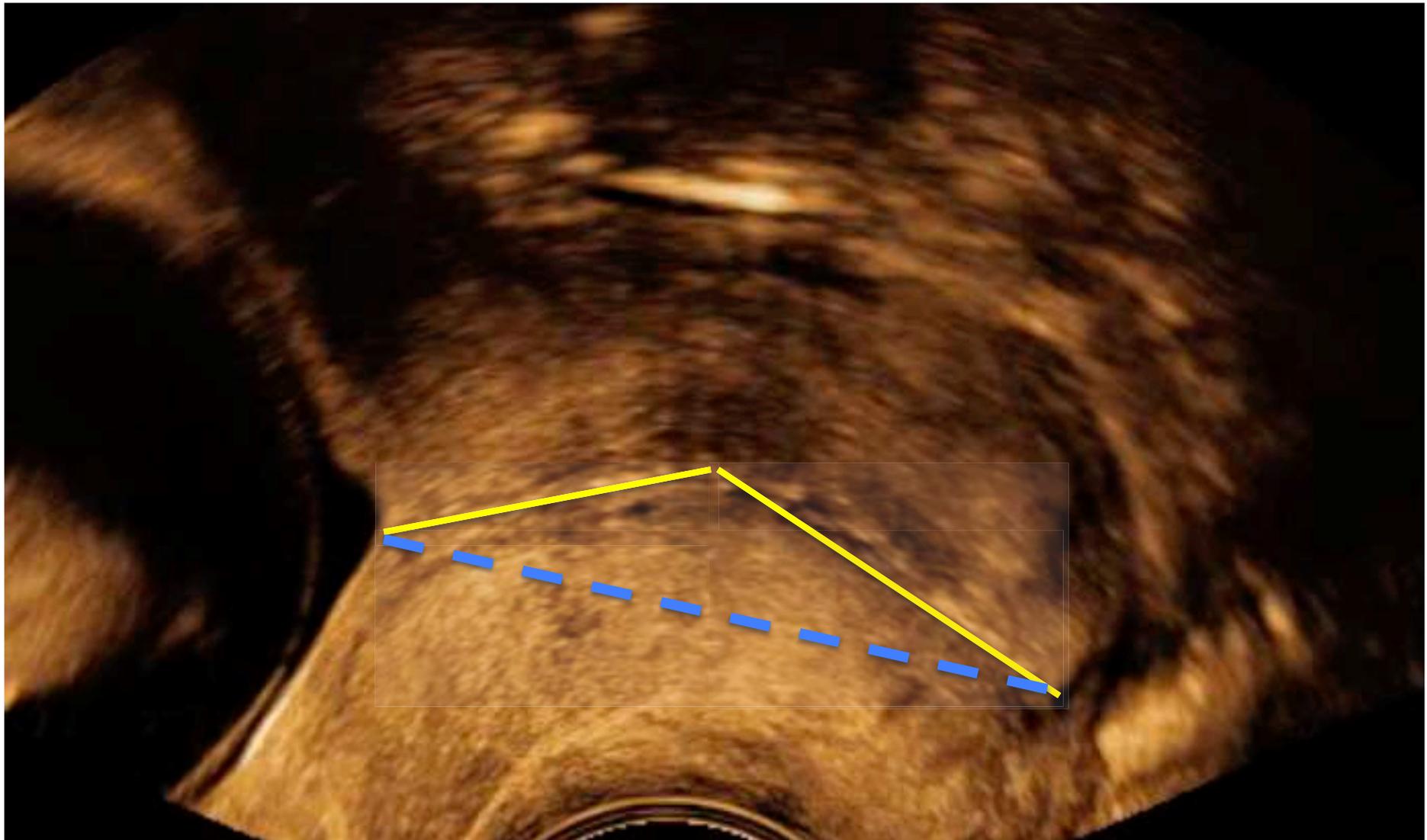
- transvaginal
- transabdominal
- transperineal
 - Blasensprung
 - 80 % erfolgreiche Darstellung
(Cicero et al. 2001;
Ultrasound Obstet
Gynecol 17)
- Schallbedingungen
- Verfälschung durch Blase



Transvaginale Cervixsonographie



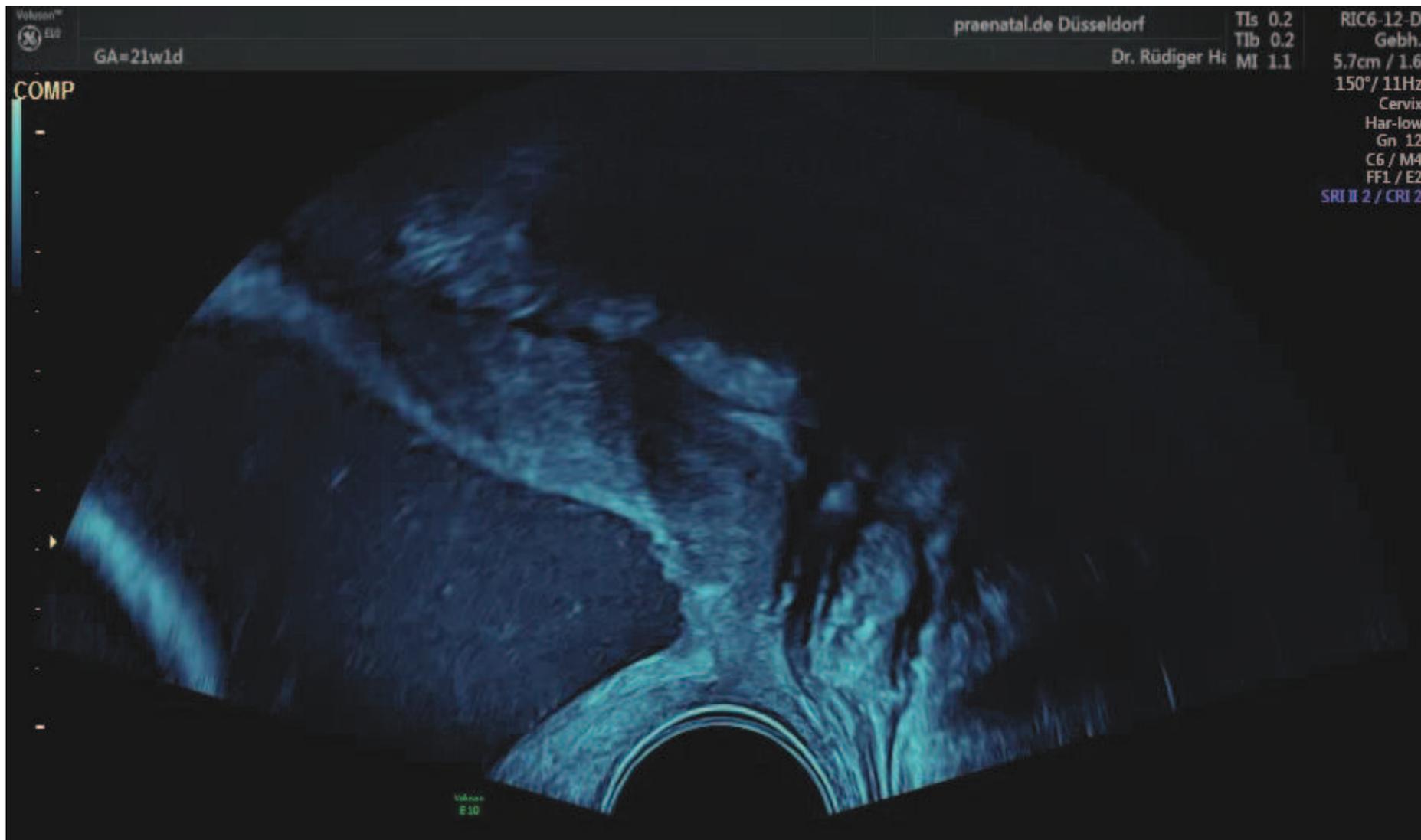
Messung



Insuffizienz



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Cervixlänge



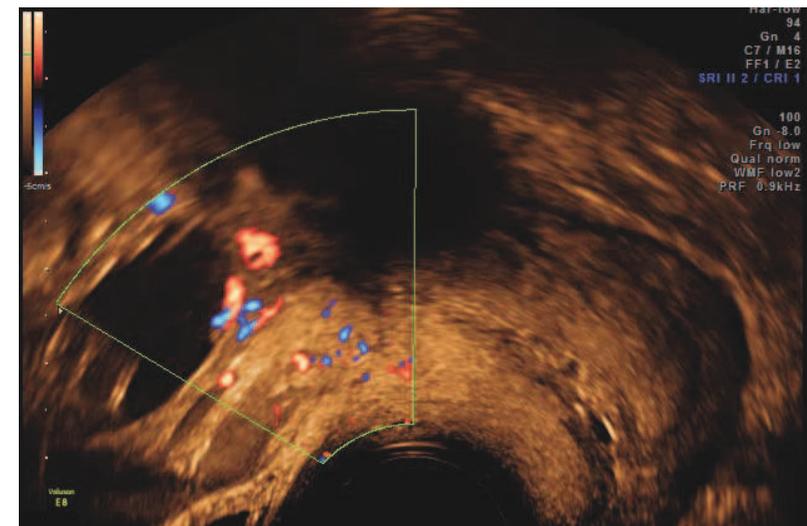
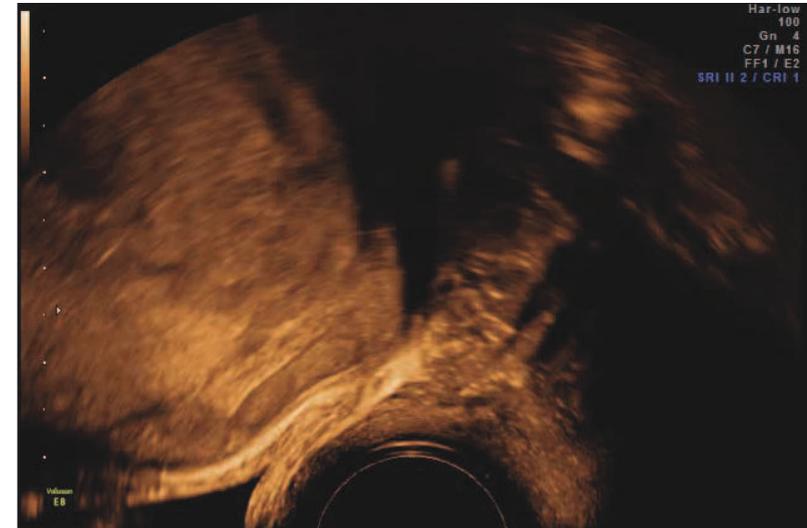
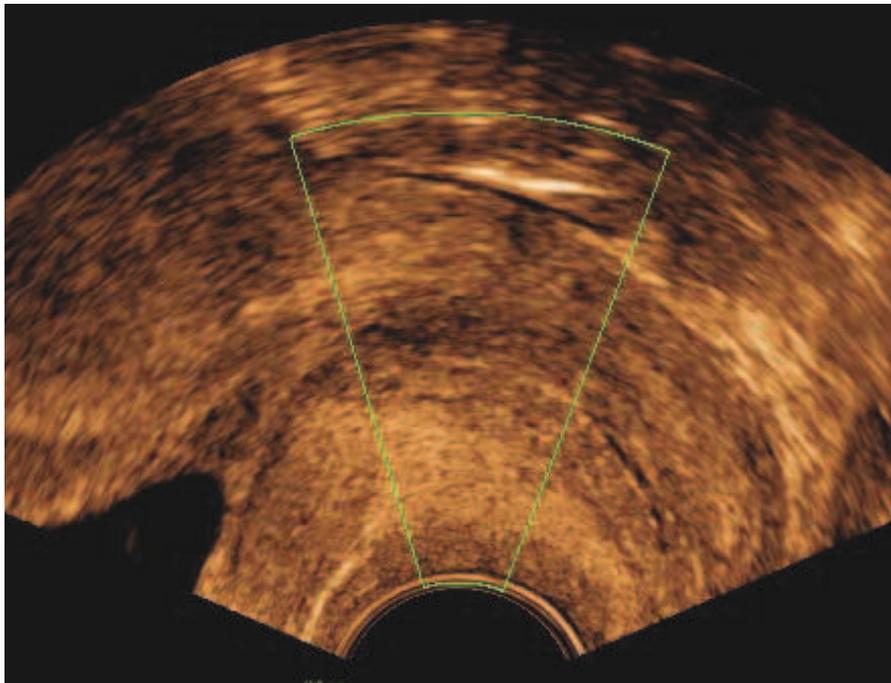
■ Cervixlänge

- Durchschnittslänge: 24 SSW: 35 mm; 28 SSW: 34 mm
 - CL < 15 mm: 1% aller Schwangeren, davon 30% mit Frühgeburt vor der 34. SSW
 - CL < 25 mm für Zwillinge und Drillinge
-
- Therapieoptionen bei Einlingen
 - Pessar, Cerclage, Progesteron
 - Therapieoptionen bei Mehrlingen:
 - bisher de facto keine; evtl. Progesteron in doppelter Dosis

Cervixsonographie



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Placenta



- Placentalokalisation
 - VoWa, Hiwa, Fundus, tiefer Sitz, Placenta praevia
- Placentagröße
 - groß, klein, dünn, dick
- Placentastruktur
 - Zysten, Lakunen, „jelly-like“
- Nabelschnur
 - Insertion, Gefäßanzahl, Zysten

Placenta praevia

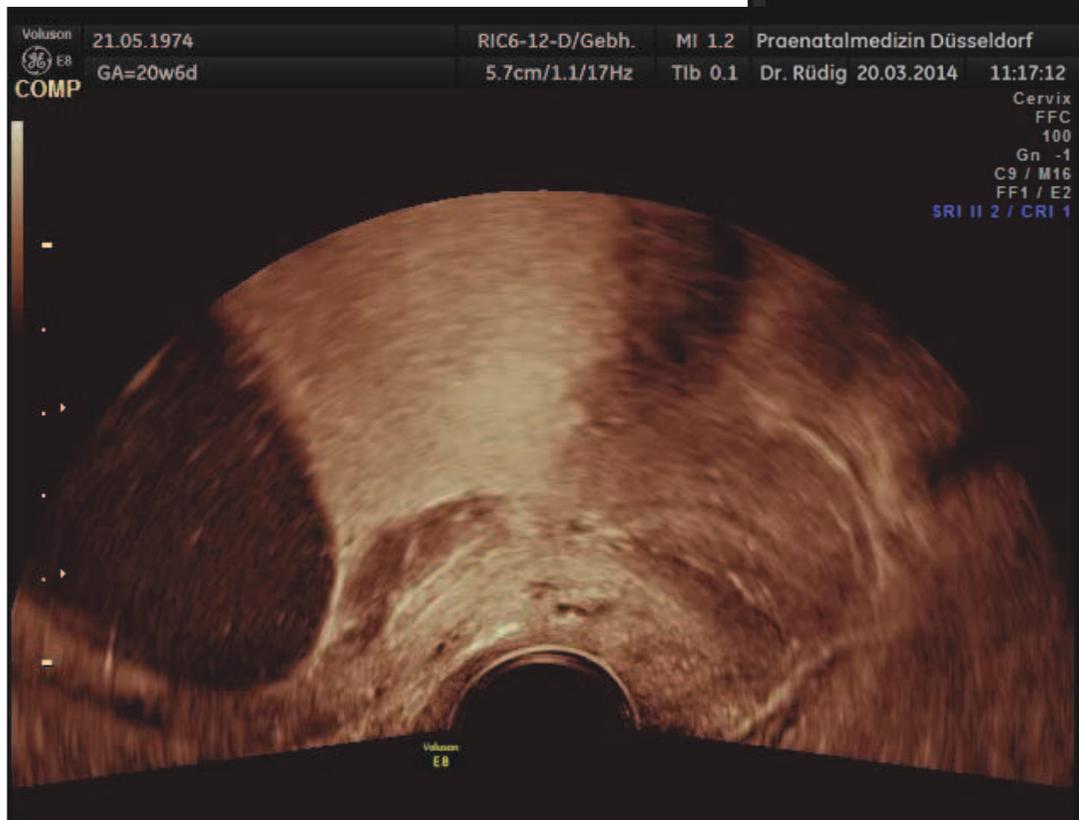
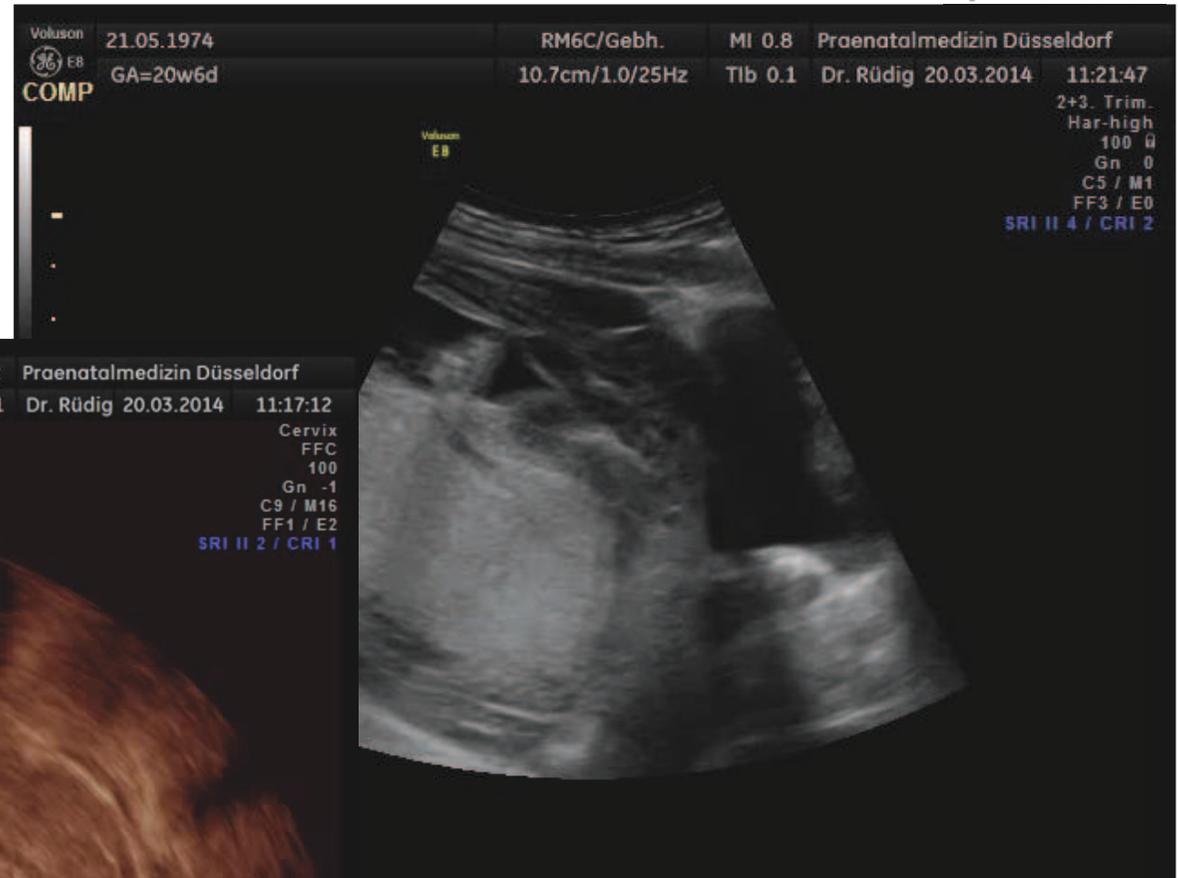


- etwa 0,5 % der Schwangeren
- Risikofaktoren: Z. n. Sectio, mehreren Aborten, Abrasionen, manueller Placentalösung, Mehrgeburtlichkeit
- Diagnose erst nach der 24. SSW
- keine Palpation; vaginaler US ohne erhöhtes Risiko einer Blutung
- 10.-20. SSW 6% Pl. praevia: 90% persistieren nicht bis zum Termin
- tiefer Placentasitz: < 2 cm vom inneren MM

Placenta praevia



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Placentagröße

- in der 22. SSW: 12 cm lang und 2,5 cm dick
- alle Abweichungen der normalen Größe nach oben und unten können mit Chromosomenstörungen, Diabetes und Infektionen (auch sekundär im Rahmen von fetalen Anämien= Placentahydrops) einhergehen





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294603 LMP=03.10.2014

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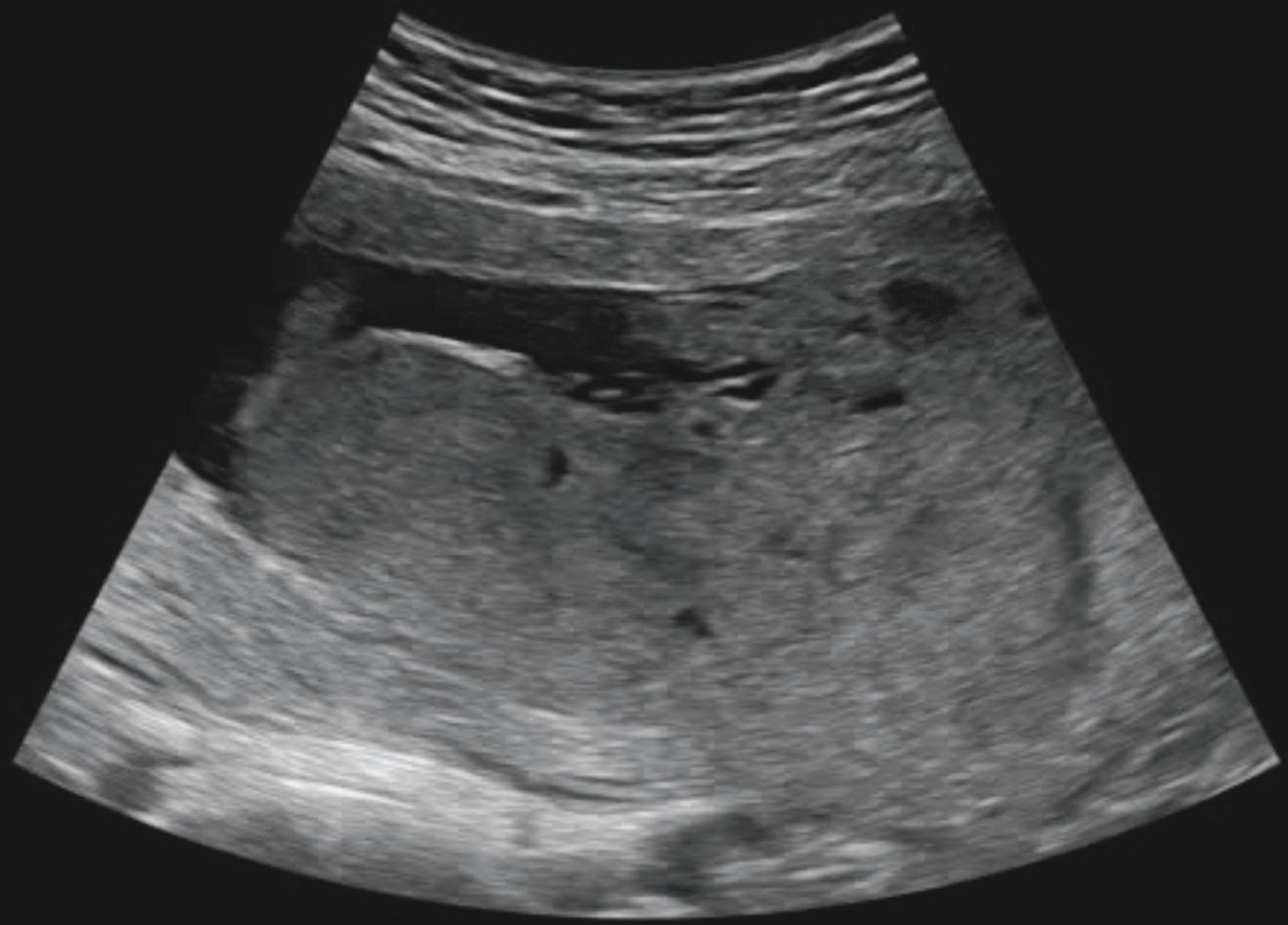
23.02.2015 08:33:10 Dr. Rüdiger H

TIs 0.3
Tlb 0.3
MI 1.0

RM6C
Gebh.
8.5cm / 1.0
55° / 33Hz
2. Trim.
Har-high
Gn 0
C4 / M7
FF0 / E3
SRII 3 / CRI 1

COMP

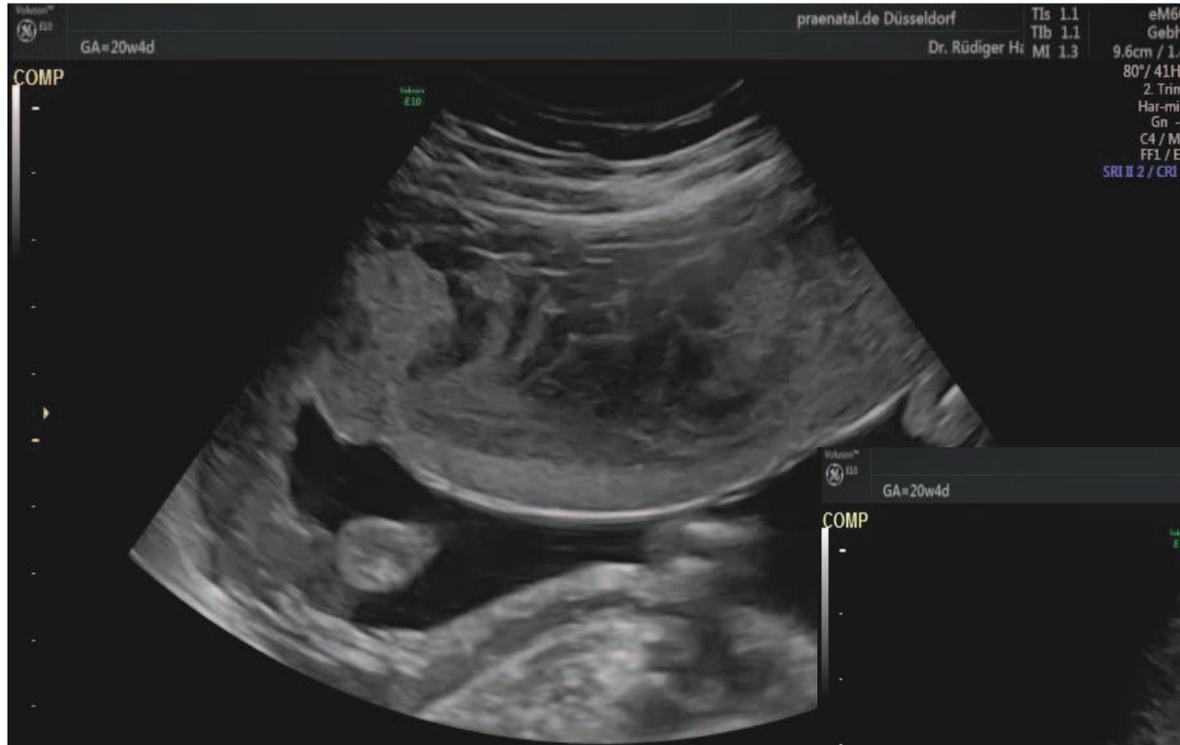
Voluson
E10



Jelly-like Placenta



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Placentastruktur



- Placentationsstörungen (1%, steigend)
- Risikofaktoren wie bei Pl. praevia
- In 20 % kombiniert mit Pl. praevia
- Nach Invasionstiefe:
 - Pl. accreta (bis an das Myometrium)
 - Pl. increta (in das Myometrium)
 - Pl. percreta (durch die Uterusserosa)
- Wichtigster US-Hinweis: Placentalakunen mit turbulentem Flow und myometriale Abgrenzung



Editorial

Proposal for standardised ultrasound descriptors of abnormally invasive placenta (AIP)

2D GREYSCALE	EW-AIP suggestions
Loss of the 'clear zone'	Loss, or irregularity, of the hypoechoic plane in the myometrium underneath the placental bed (the 'clear zone')
Abnormal placental lacunae	Presence of numerous lacunae including some that are large and irregular (Finberg grade 3) often containing turbulent flow visible in greyscale imaging
Bladder wall interruption	Loss or interruption of the bright bladder wall (the hyperechoic band or 'line' between the uterine serosa and the bladder lumen)
Myometrial thinning	Thinning of the myometrium overlying the placenta to <1mm or undetectable.
Placental bulge	Deviation of the uterine serosa away from the expected plane, caused by an abnormal bulge of placental tissue into a neighboring organ, typically the bladder. The uterine serosa appears intact but the outline shape is distorted.
Focal exophytic mass	Placental tissue seen breaking through the uterine serosa and extending beyond it. Most often seen inside a filled urinary bladder.
2D COLOR DOPPLER	
Utero-vesical hypervascularity	Striking amount of colour Doppler signal seen between the myometrium and the posterior wall of the bladder. This sign probably indicates numerous, closely packed, tortuous vessels in that region (demonstrating multi-directional flow and aliasing artifact).
Sub-placental hypervascularity	Striking amount of colour Doppler signal seen in the placental bed. This sign probably indicates numerous, closely packed, tortuous vessels in that region (demonstrating multi-directional flow and aliasing artifact).
Bridging vessels	Vessels appearing to extend from the placenta, across the myometrium and beyond the serosa into the bladder or other organs. Often running perpendicular to the myometrium.
Placental lacunae feeder vessels	Vessels with high velocity blood flow leading from the myometrium into the placental lacunae, causing turbulence upon entry.
3D ULTRASOUND	
Intra-placental hypervascularity (power Doppler)	Complex, irregular arrangement of numerous placental vessels, exhibiting tortuous courses and varying calibers.
Placental bulge	(as in 2D)
Focal exophytic mass	(as in 2D)
Utero-vesical hypervascularity	(as in 2D)
Bridging vessels	(as in 2D)

Placentastruktur



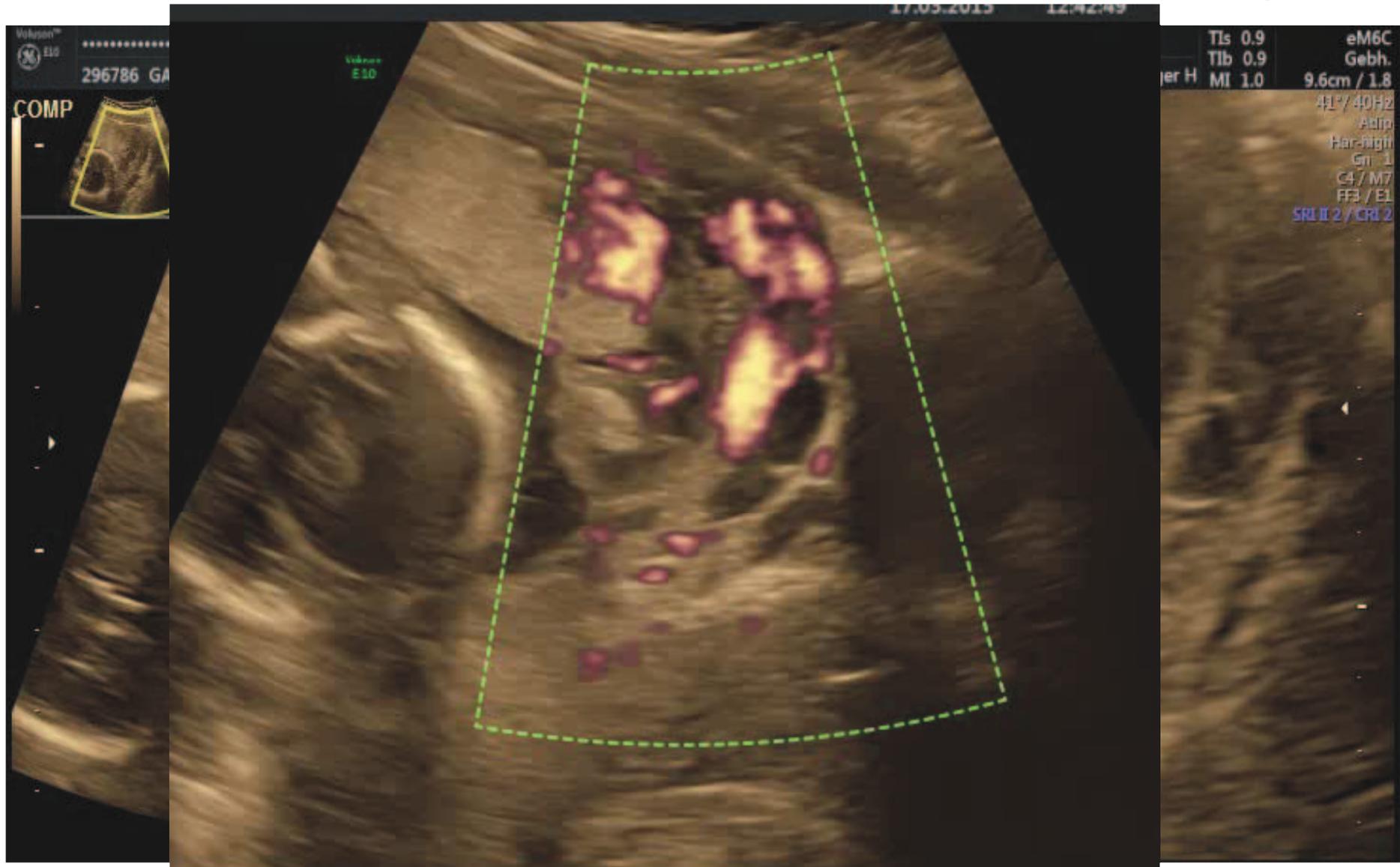
myometriumnahe Lakunen;
Placenta accreta?



Placentastruktur



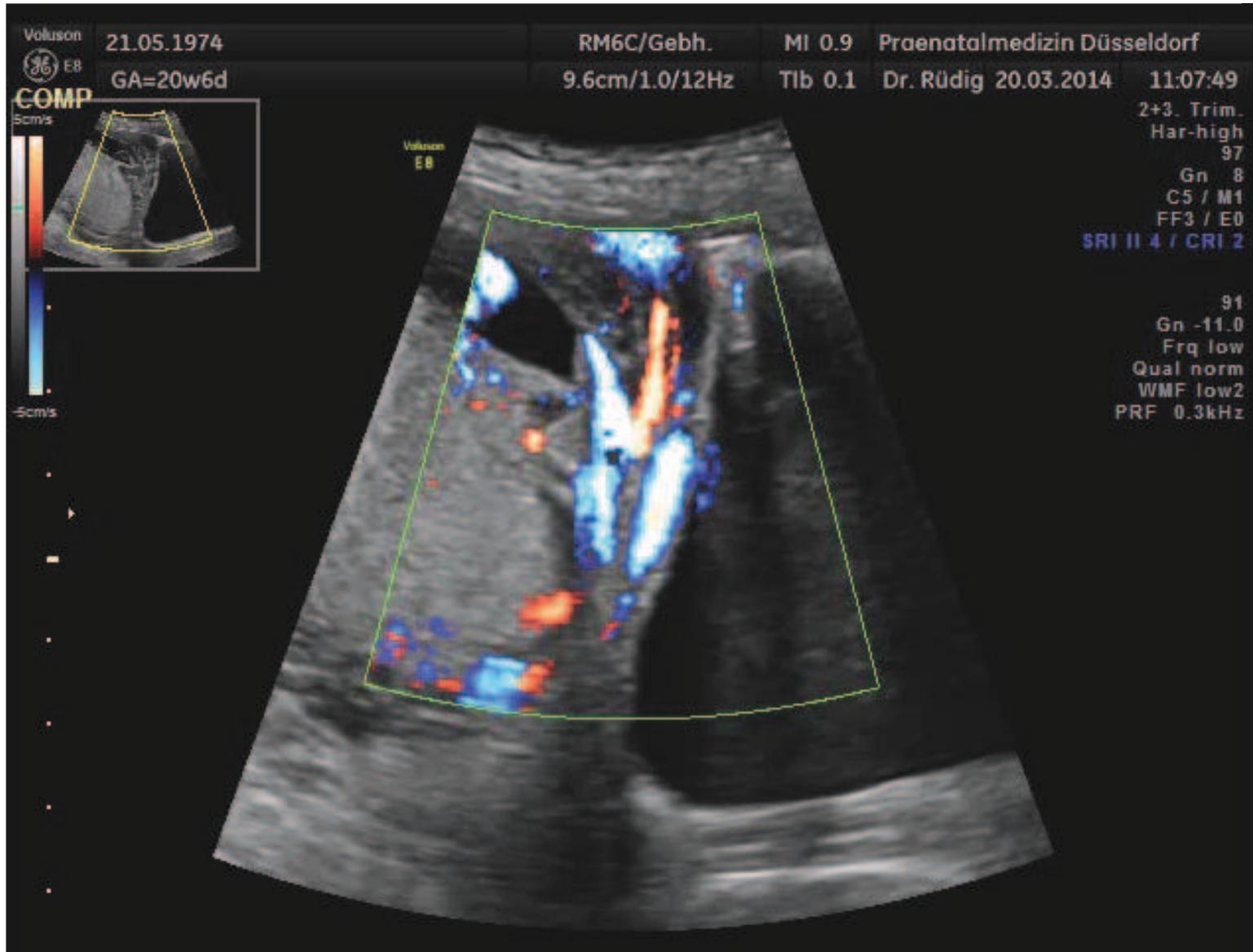
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Placentastruktur



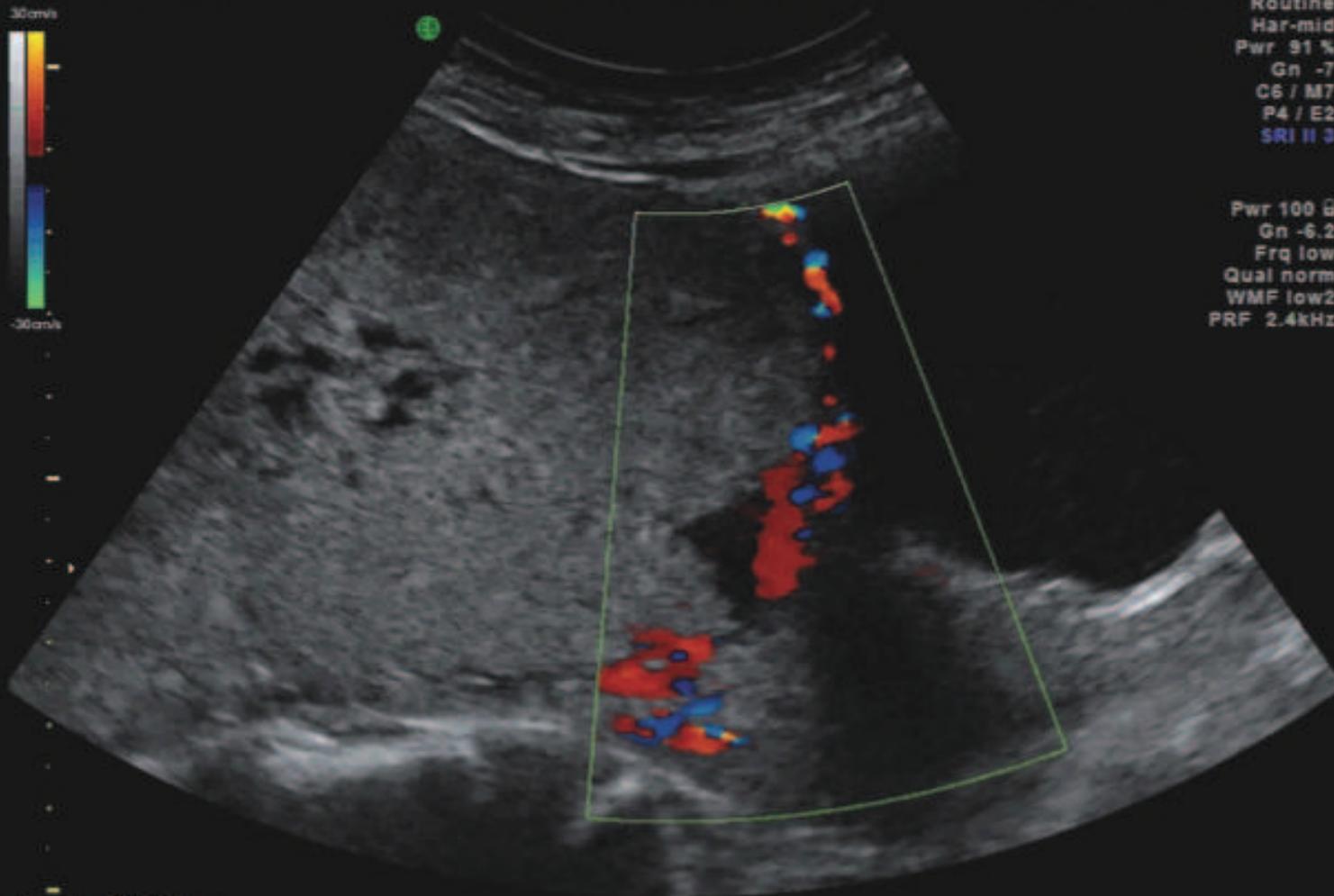
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Praevia after CS, placental lakes and increased perfusion: **think AIP!**



0009313788 10.1cm / 1.3 / 12Hz TIs 0.2 12.05.2009 16:30:55

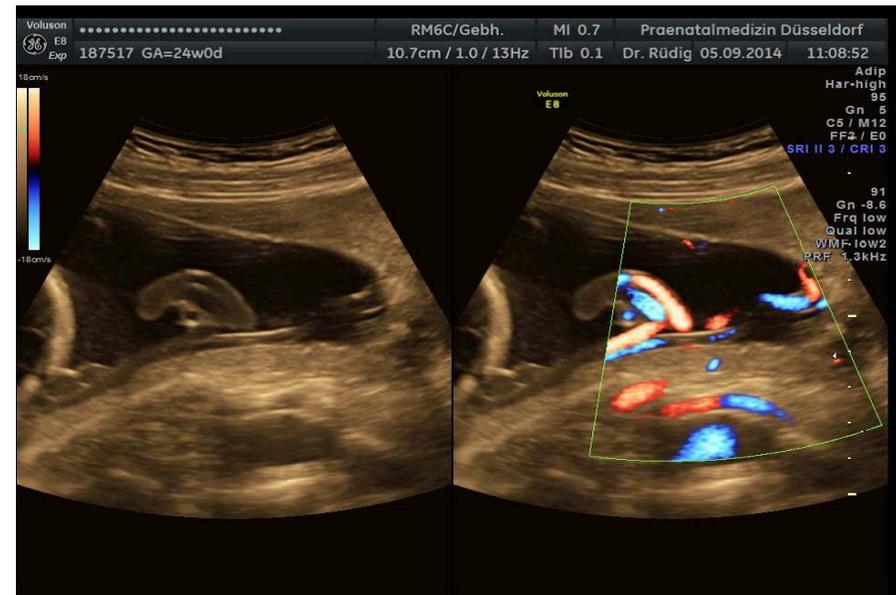


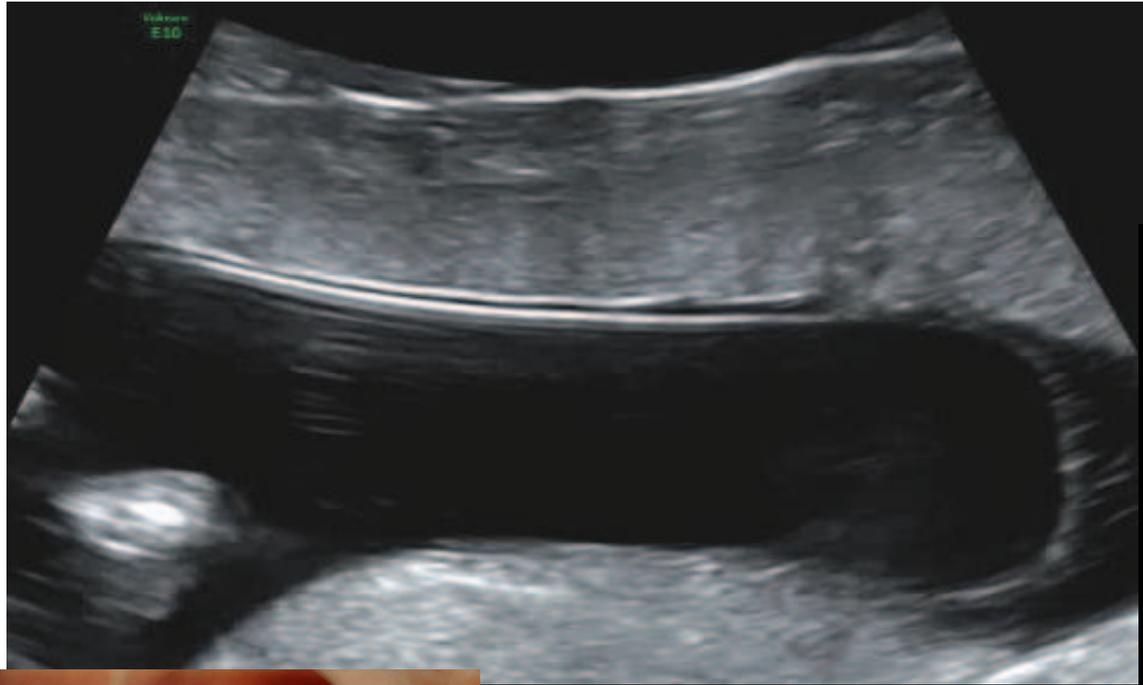
Routine
Har-mid
Pwr 91 %
Gn -7
C6 / M7
P4 / E2
SRI II 3

Pwr 100 μ
Gn -6.2
Frq low
Qual norm
WMF low2
PRF 2.4kHz

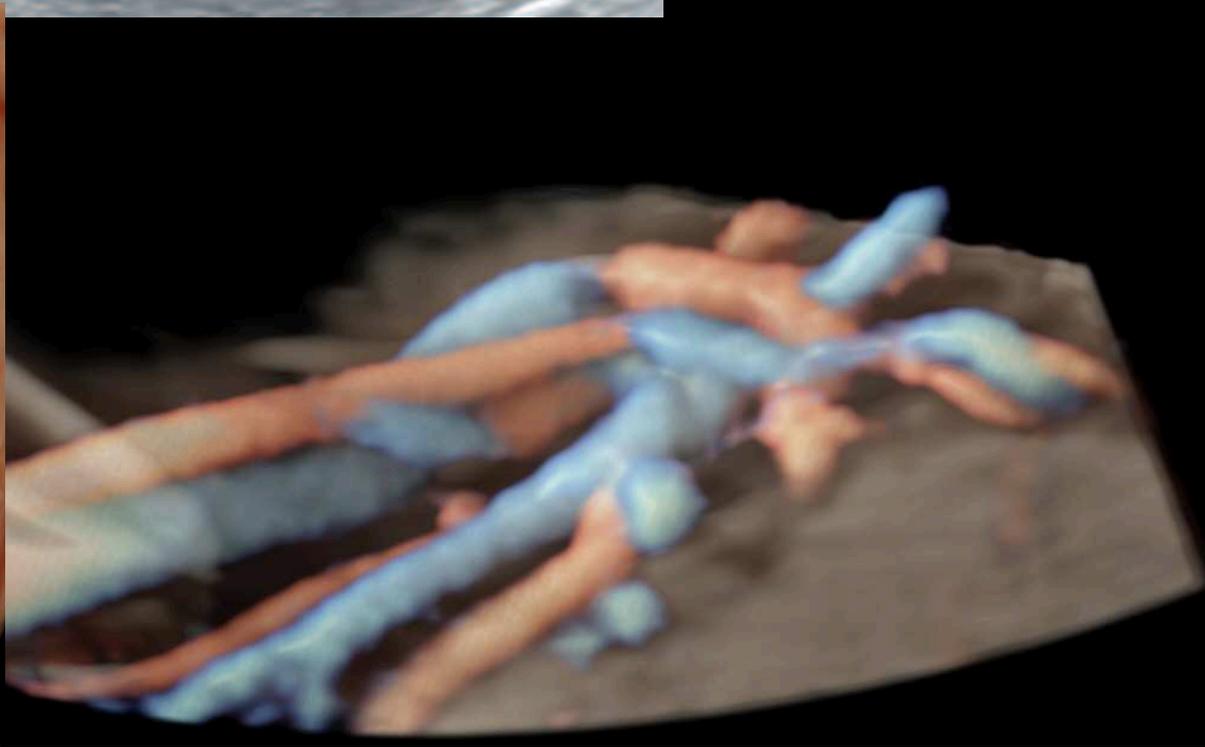
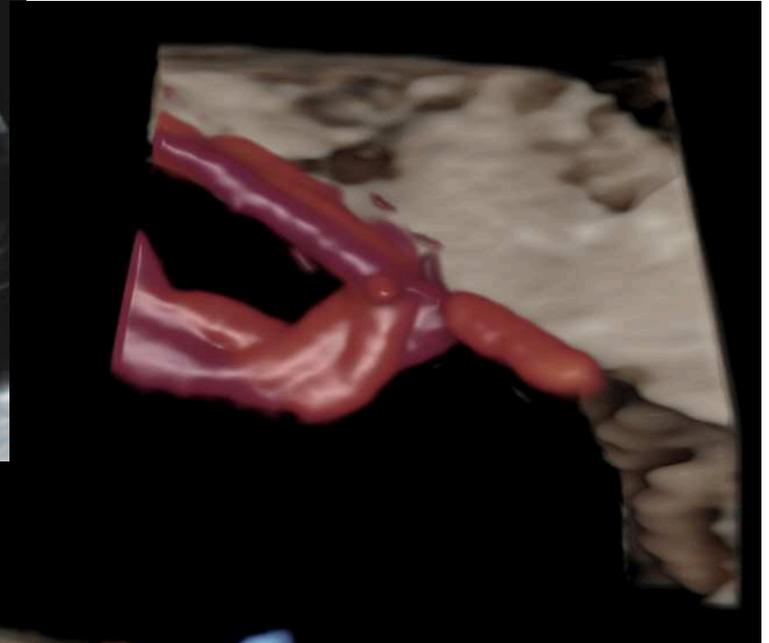
Nabelschnur

- Zysten: Korrelation mit Trisomie 18
- singuläre Nabelarterie: Darstellung der beiden Arterien neben der fetalen Harnblase
 - Wachstums- und Dopplerkontrolle
- Nabelansatz:
 - zentral
 - peripher
 - Insertio velamentosa
- Einfachste Diagnostik im 1. Trimenon





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Literatur

Ultrasound Obstet Gynecol 2015; 45: 358–362
Published online 29 January 2015 in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/uog.14742



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How to

Practical advice on imaging-based techniques and investigations with accompanying slides and videoclips online

How to measure cervical length

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Proposal for standardised ultrasound descriptors of abnormally invasive placenta (AIP)

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Olivier Morel⁶, Vedran Stefanovic⁷, Boris Tutschek⁸, Frederic Chantraine⁹, *On behalf of the
European Working Group on Abnormally Invasive Placenta (EW-AIP)*

808 GebFra Science

Sonographic Assessment of the Umbilical Cord

Sonografie der Nabelschnur

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