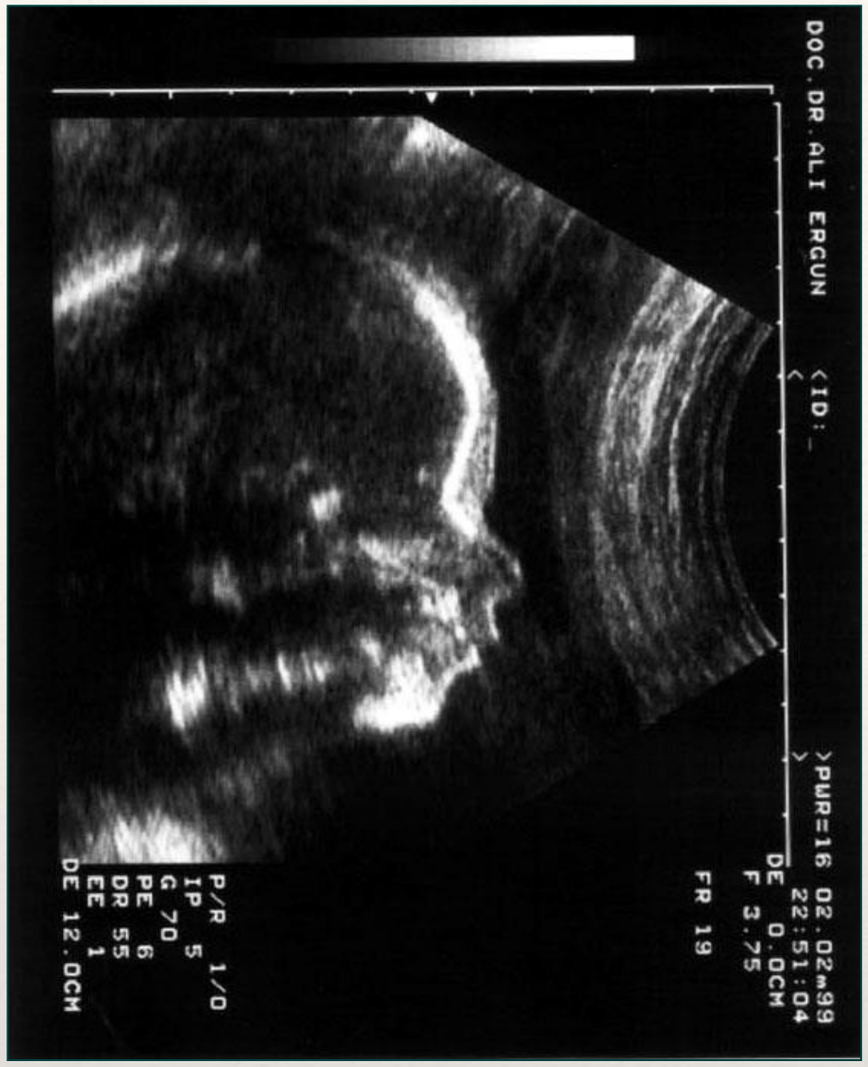
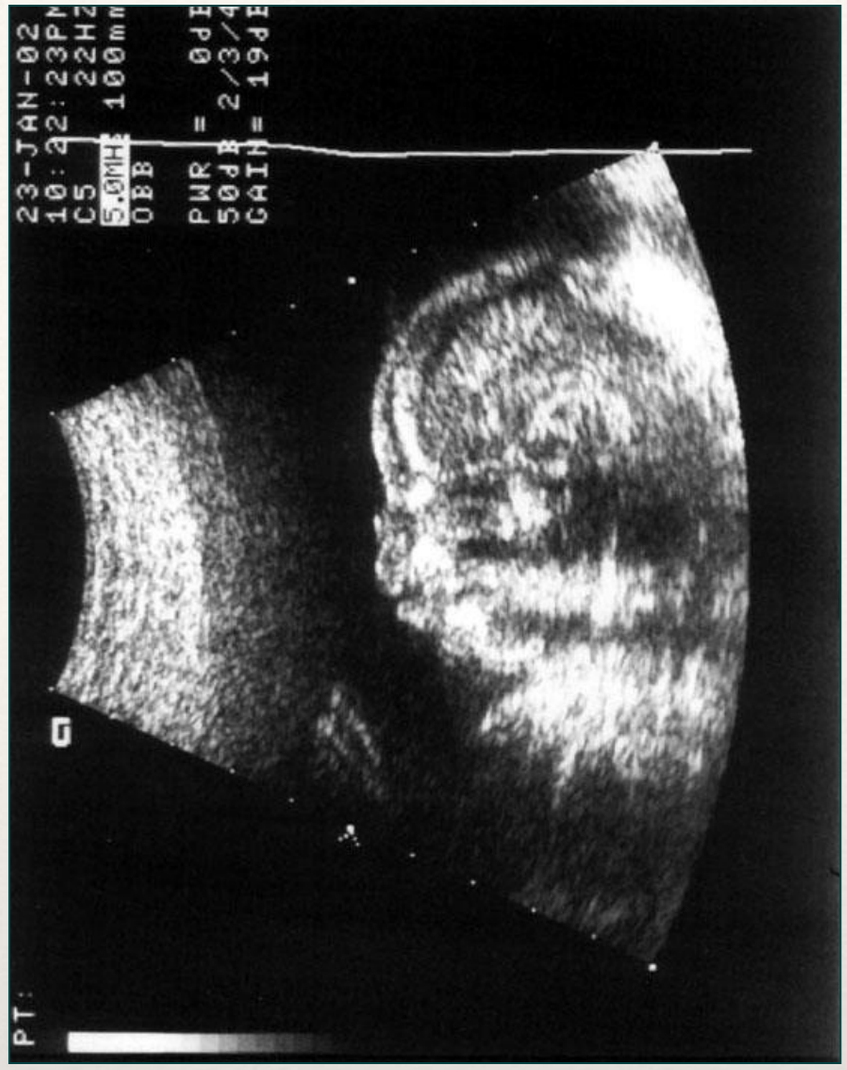


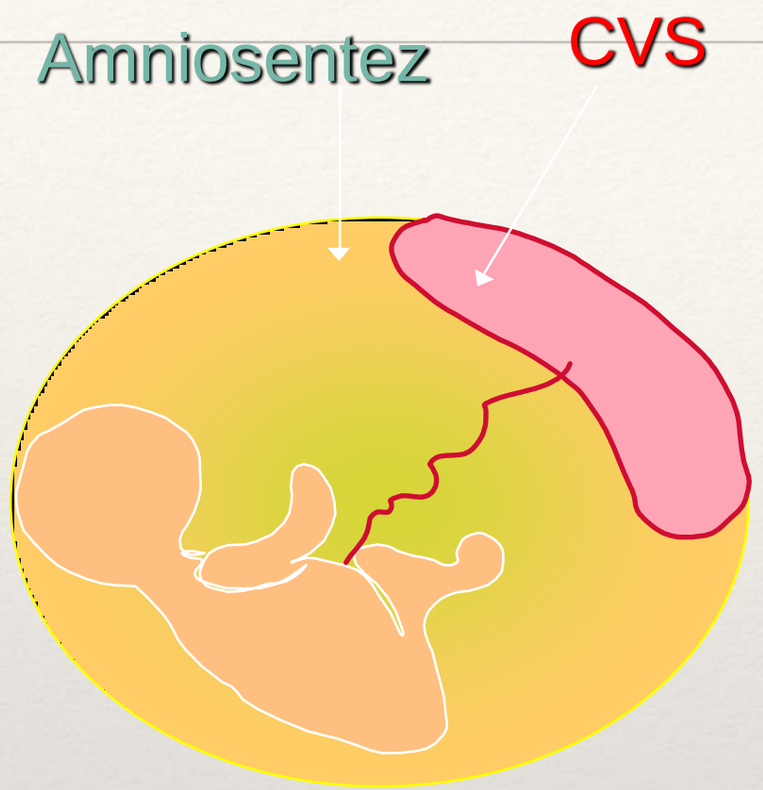


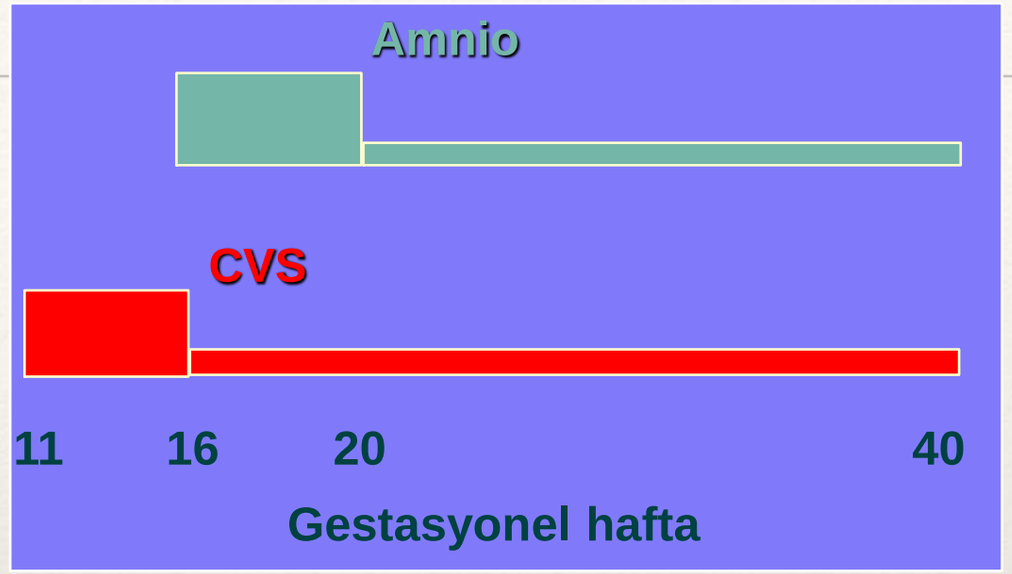
10 Haziran 2016

CVS ve AS Gebelik Kaybına Yol Açar mı?

Prof.Dr.
Ali ERGÜN

A/S V CVS





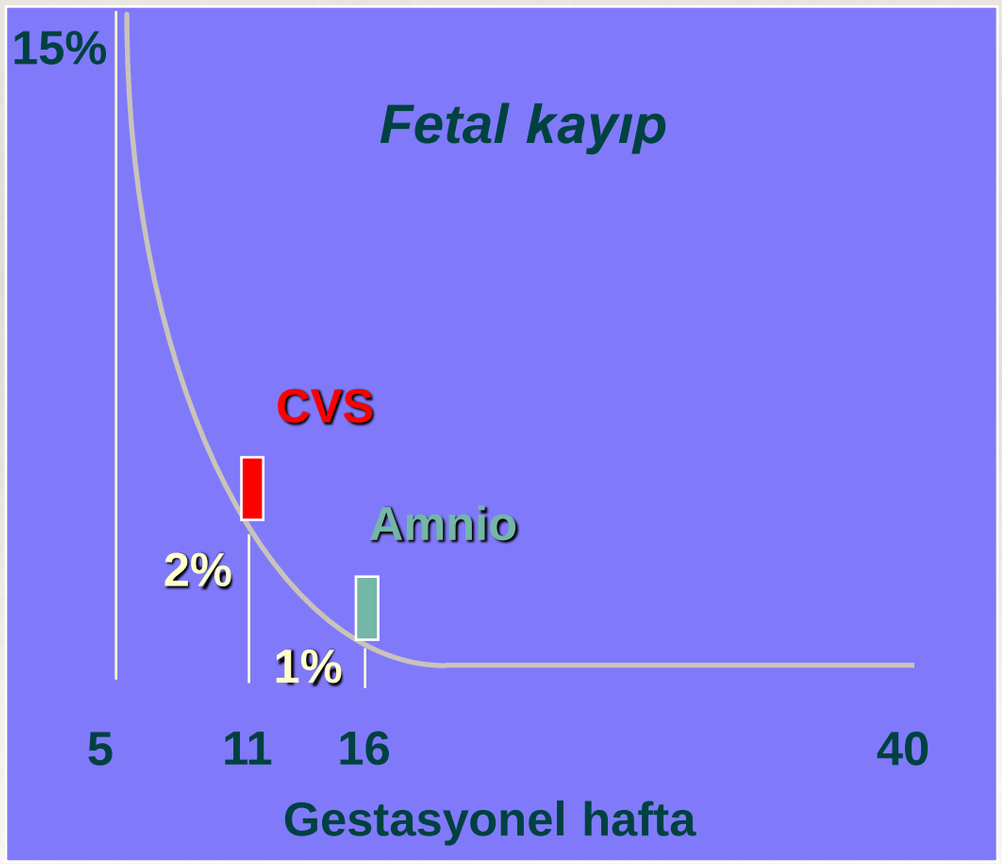
Randomize çalışmalar

Cochrane Library, Issue 4, 2003

2nci trimester amnio – kayıp 1%

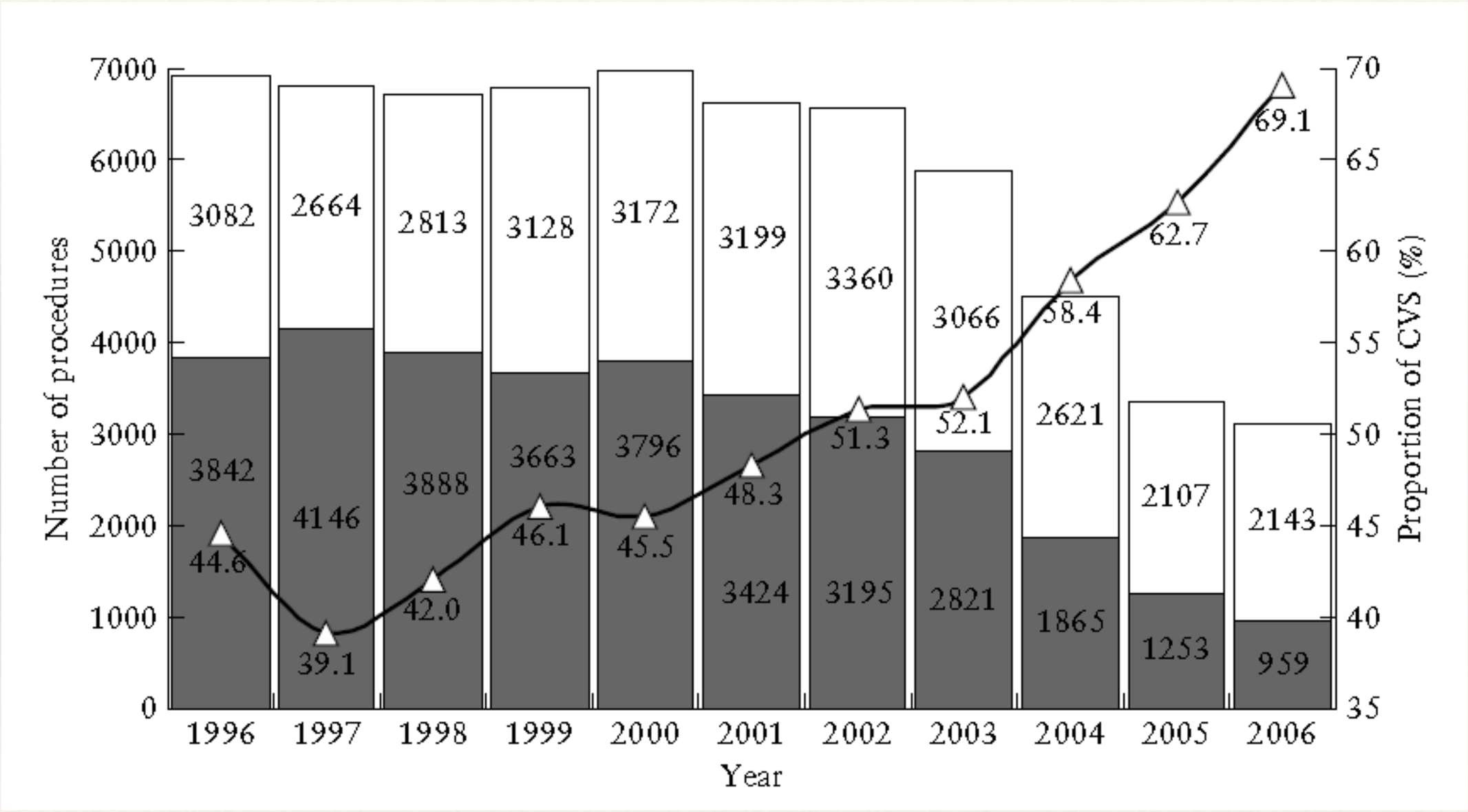
TA CVS – amnio ile fark yok

Erken amnio tehlikeli



Prenatal İnvaziv Testler

Genel Bilgiler

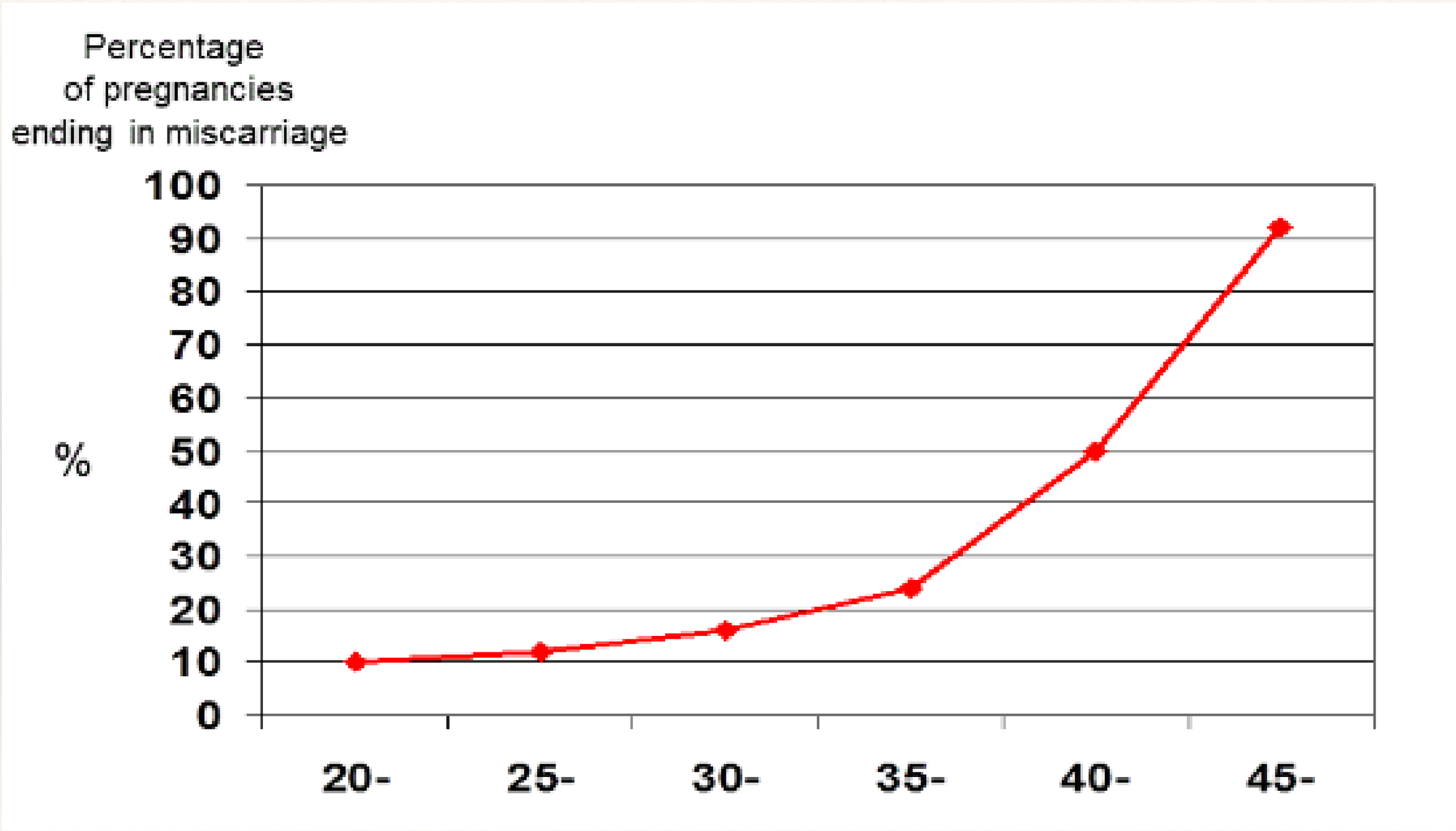


Tabor A, Ultrasound Obstet Gynecol, 2009.

İşleme Bağlı Kayıp Riski

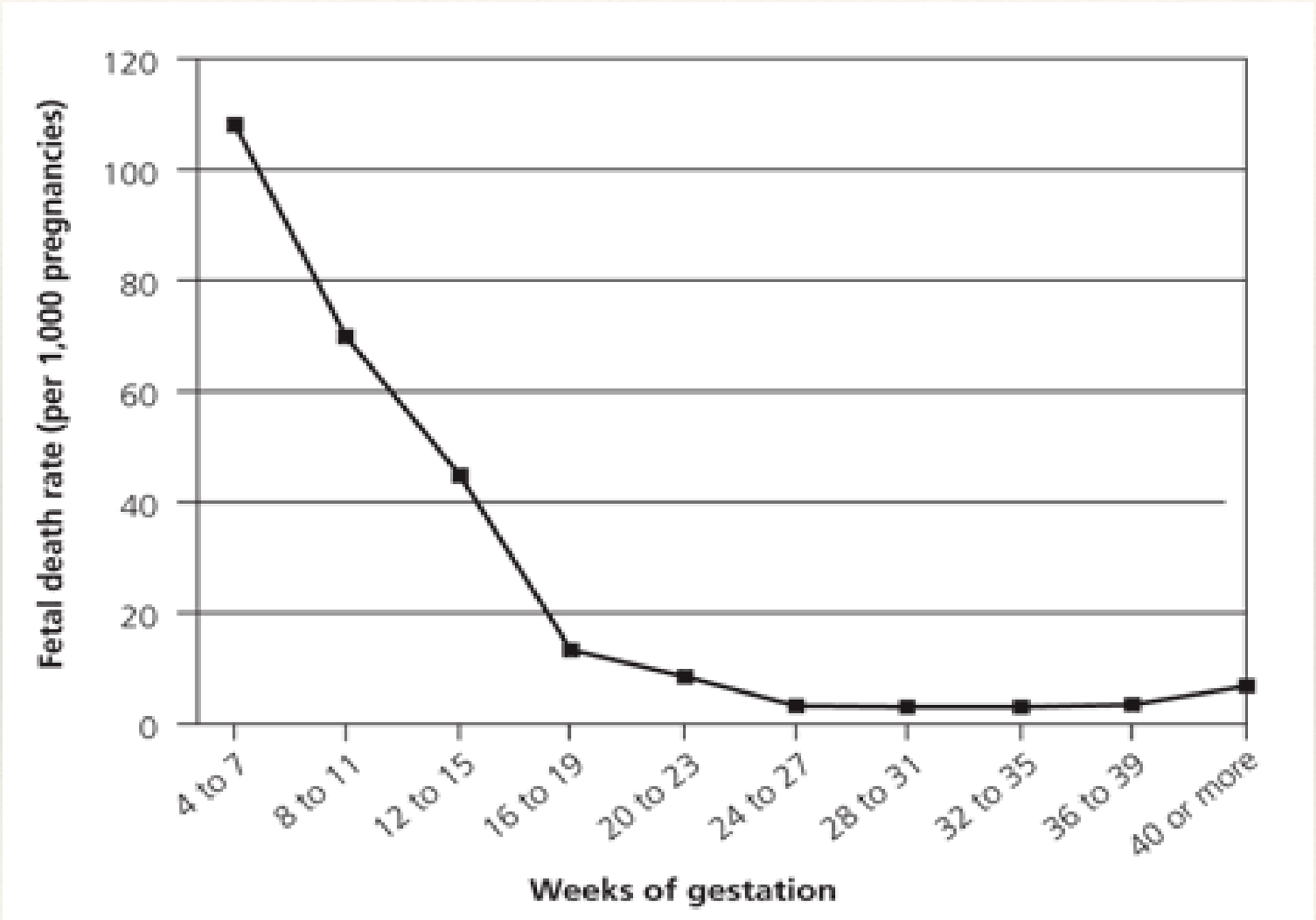
- Estimated Background Risk
- İşlem Sonrası Risk

Spontan Kayıp Riski Yaşa Göre



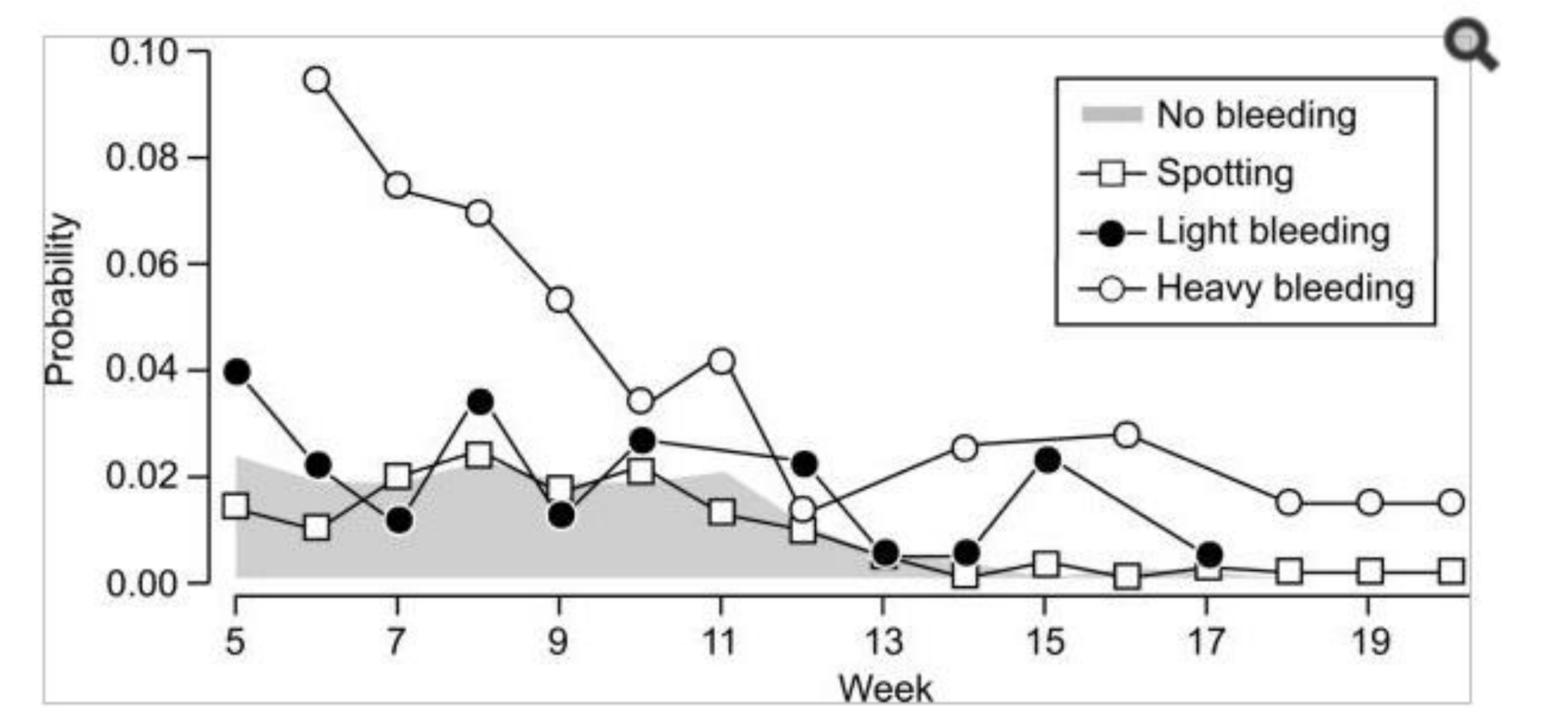
Heffner Lj. New England Journal of Medicine 2004.

Spontan Kayıp Riski Gebelik Haftasına Göre



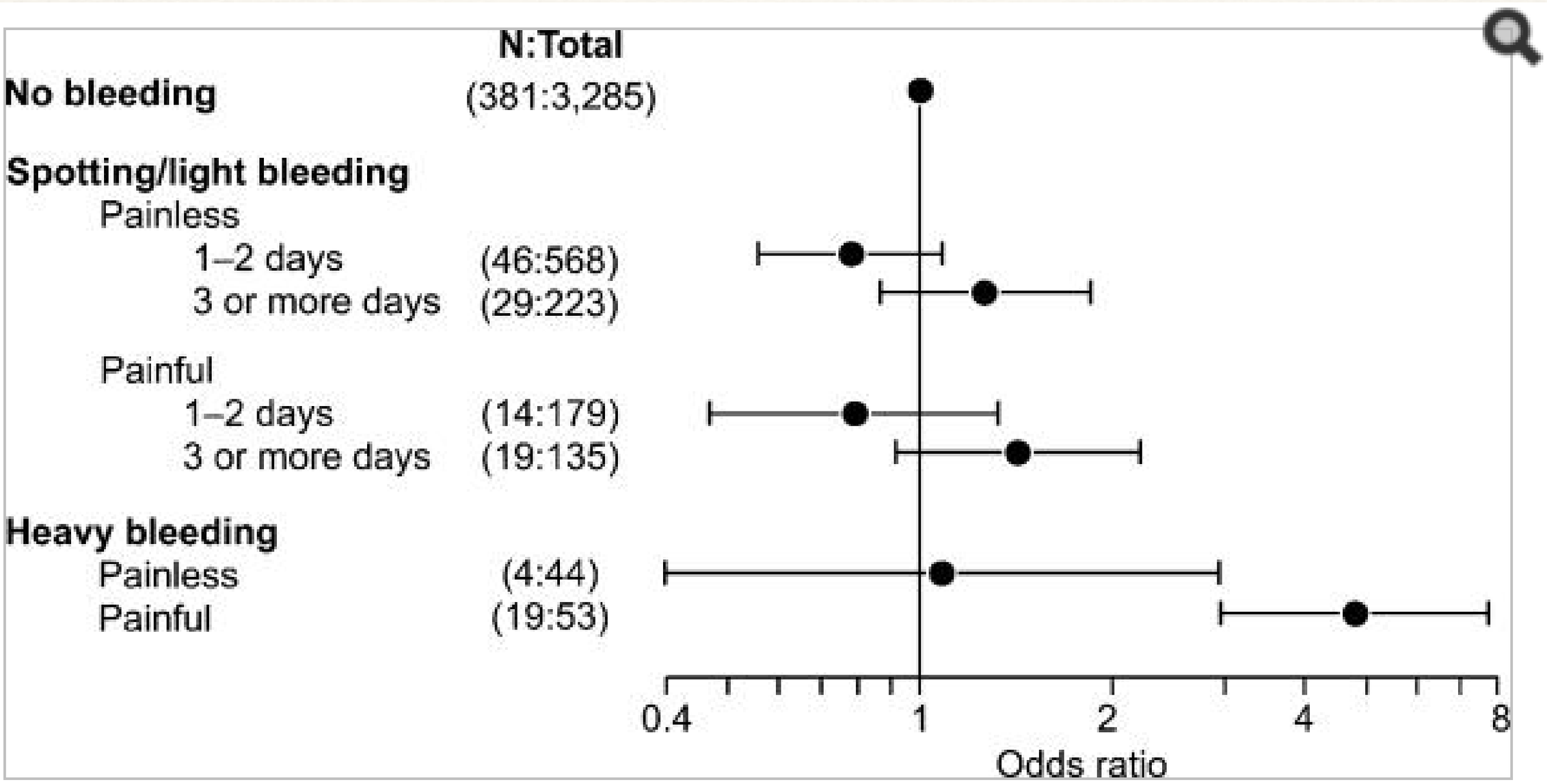
Michels T, *Am Fam Physician.* 2007

Spontan Kayıp Riski
“Kanama ve Gebelik Haftası”



Reem H, Obstet Gynecol 2009

Spontan Kayıp Riski – Kanama



Fetal Kayıp Riski

Guidelines

- **UK National Health Service Fetal Anomaly Screening Programme**
  - Overall kayıp riski
    - Amniosentez sonrası yaklaşık % 1
    - CVS sonrası yaklaşık % 1–2%.
- **Royal College of Obstetricians and Gynaecologists (RCOG)**
  - Additional Kayıp riski
    - Amniosentez sonrası yaklaşık % 1
    - CVS sonrası yaklaşık % 1–2%.

Fetal Kayıp Riski

Guidelines

- **American College of Obstetricians & Gynecologists**
- Prosedür ile İlişkili Kayıp Riski
  - Mid-trimester amniosentez sonrası 1/ 300–500 den daha az.
  - CVS için oranlar benzer olabilir.
- **The committee opinion from the Society of Obstetricians and Gynaecologists of Canada**
  - Amniyosentezi takiben gebelik kayıp riski bireye özgüdür.
  - Multiple değişkenlere bağlı olarak % 0.19 dan - % 1.53 arasında olabilir.

İnvaziv Test Riski Artırıyor mu?

Ultrasound Obstet Gynecol 2015; 45: 16–26
Published online in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/uog.14636

Procedure-related risk of miscarriage following amniocentesis and chorionic villus sampling: a systematic review and meta-analysis

R. AKOLEKAR*†, J. BETA*, G. PICCIARELLI*, C. OGILVIE‡ and F. D'ANTONIO§

**Fetal Medicine Unit, Medway Maritime Hospital, Gillingham, Kent, UK; †Harris Birthright Research Centre, King's College Hospital, London, UK; ‡Guy's and St Thomas' NHS Foundation Trust and King's College, London, UK; §Fetal Medicine Unit, St George's Hospital, London, UK*

2000 – 2014 arası çalışmalar

Prosedür ile İlişkili Kayıp Riski

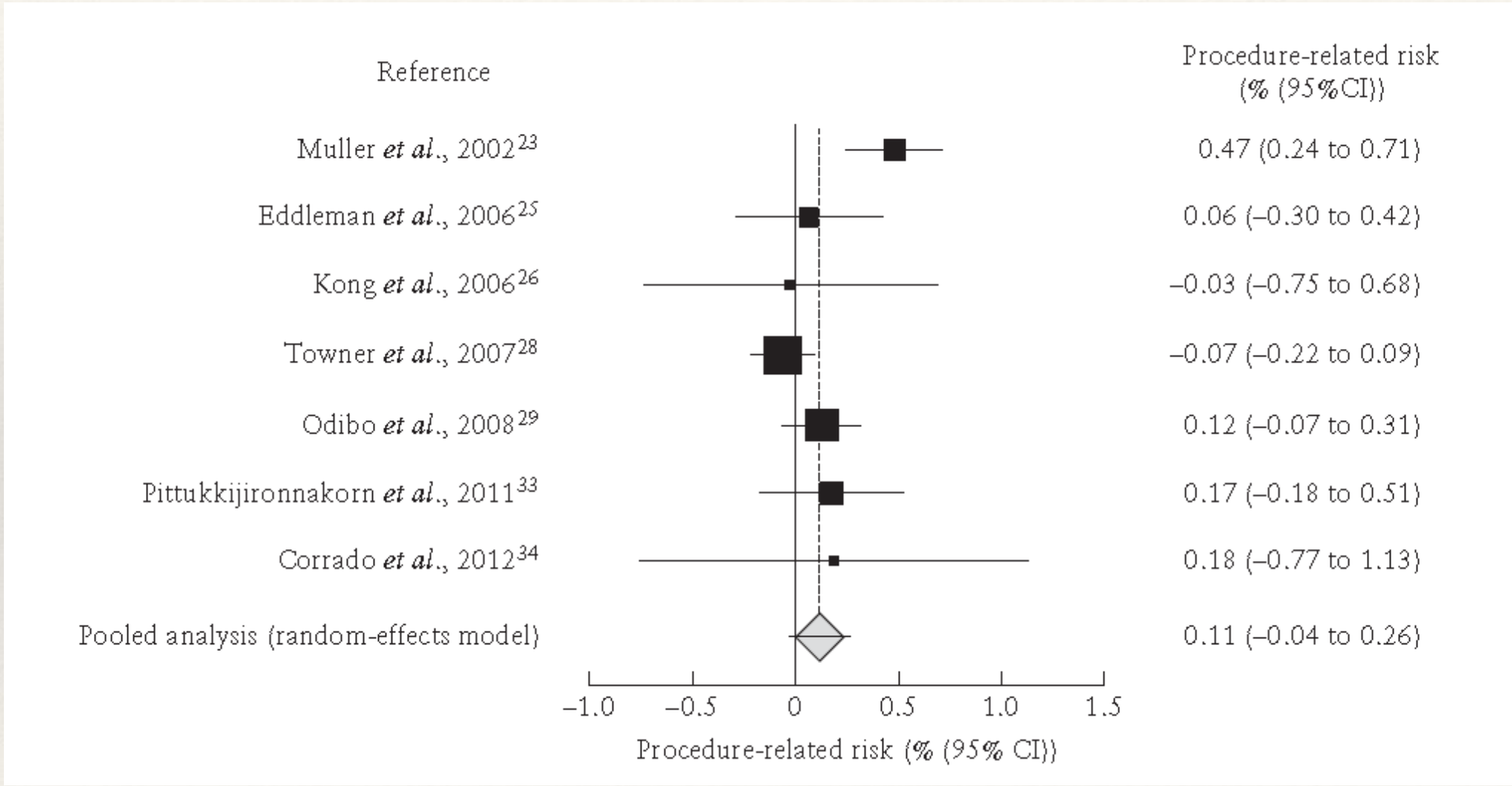
Amniyosentez

Reference	Amniocentesis group: Total (n)	Amniocentesis group: Miscarriage rate (n (% (95% CI)))	Control group: Total (n)	Control group: Miscarriage rate (n (% (95% CI)))	Procedure-related loss (% (95% CI))	P
Muller, 2002[23]	3472	31 (0.89 (0.61–1.27))	47004	197 (0.42 (0.36–0.48))	0.47 (0.24 to 0.71)	0.0003
Eddleman, 2006[25]	3096	31 (1.00 (0.68–1.42))	31907	300 (0.94 (0.84–1.05))	0.06 (–0.30 to 0.42)	0.6976
Kong, 2006[26]	3468	39 (1.12 (0.80–1.53))	1125	13 (1.16 (0.62–1.97))	–0.03 (–0.75 to 0.68)	0.8727
Towner, 2007[28]	15005	69 (0.46 (0.36–0.58))	17045	90 (0.53 (0.42–0.65))	–0.07 (–0.22 to 0.09)	0.4258
Odibo, 2008[29]	11695	113 (0.97 (0.80–1.16))	39594	335 (0.85 (0.76–0.94))	0.12 (–0.07 to 0.31)	0.2348
Pitukkijronnakorn, 2011[33]	2990	11 (0.37 (0.18–0.66))	1495	3 (0.20 (0.04–0.59))	0.17 (–0.18 to 0.51)	0.4099
Corrado, 2012[34]	2990	30 (1.00 (0.68–1.43))	487	4 (0.82 (0.22–2.09))	0.18 (–0.77 to 1.13)	0.4720
Pooled analysis (random effects)	42716	324 (0.81 (0.58–1.08))	138657	942 (0.67 (0.46–0.91))	0.11 (–0.04 to 0.26)	0.1435
Cochran's Q (*P*)		46.43 (< 0.0001)		117.15 (< 0.0001)	9.97 (0.1259)	
I^2 statistic (% (95% CI))		87.1 (74.5–92.0)		94.9 (92.3–96.3)	39.8 (0.0–73.4)	
Bias (*P*)		2.9443 (0.3653)		0.2387 (0.9441)	0.6228 (0.6661)	

Akolekar R, Ultrasound Obstet Gynecol 2015

Prosedür ile İlişkili Kayıp Riski

Amniyosentez



Akolekar R, Ultrasound Obstet Gynecol 2015

Prosedür ile İlişkili Kayıp Riski

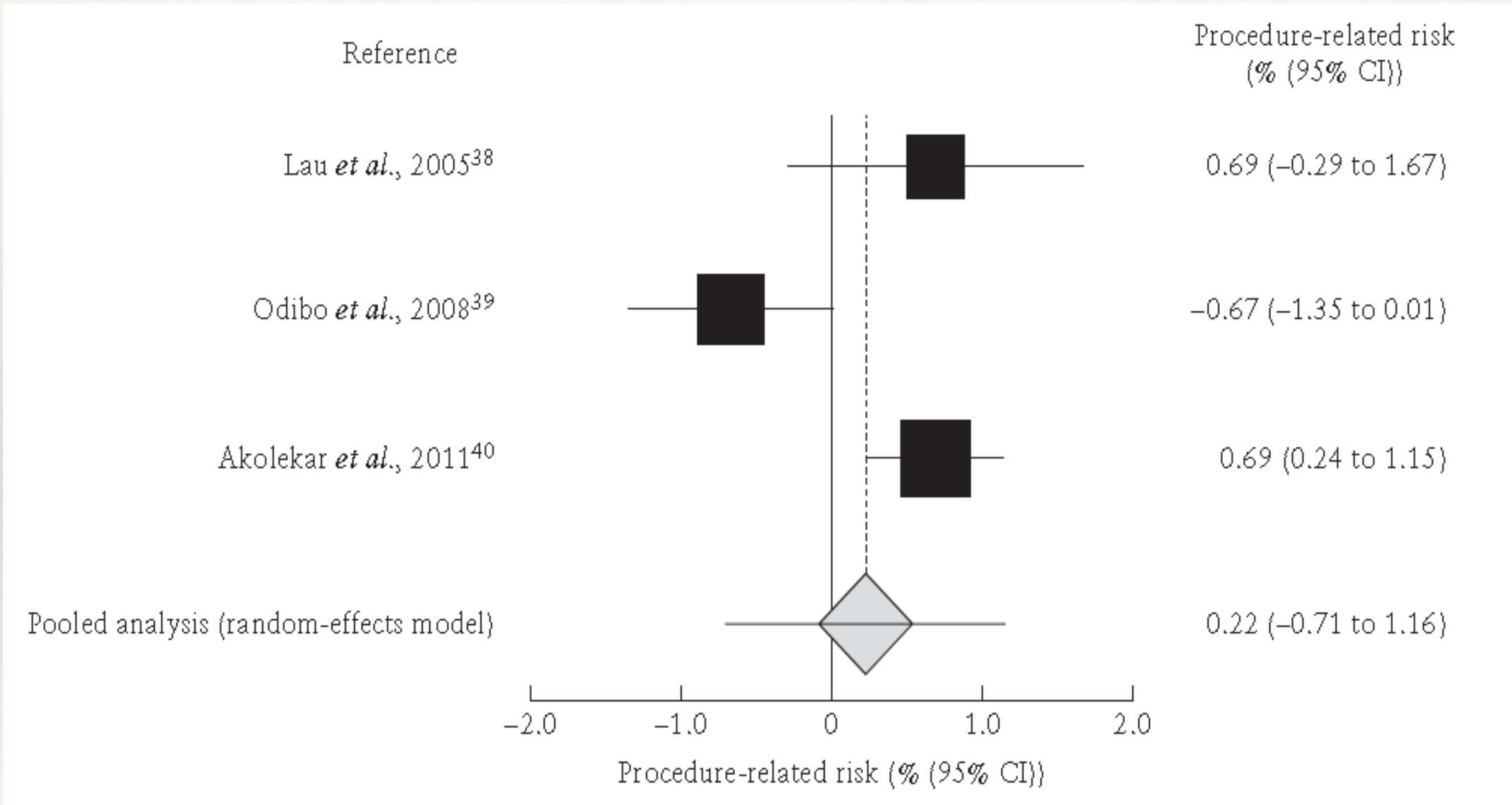
Koriyonik Villus Örneklemesi

	CVS group		*Control group*			
Reference	*Total* (n)	*Miscarriage rate* (n (% (95% CI)))	*Total* (n)	*Miscarriage rate* (n (% (95% CI)))	*Procedure-related loss* (% (95% CI))	P
Lau, 2005[38]	1355	25 (1.85 (1.20–2.71))	1125	13 (1.16 (0.62–1.97))	0.69 (–0.29 to 1.67)	0.2276
Odibo, 2008[39]	5148	138 (2.68 (2.26–3.16))	4803	161 (3.35 (2.86–3.90))	–0.67 (–1.35 to 0.01)	0.0653
Akolekar, 2011[40]	2396	44 (1.84 (1.34–2.46))	31460	360 (1.14 (1.03–1.27))	0.69 (0.24 to 1.15)	0.0042
Pooled analysis (random effects)	8899	207 (2.18 (1.61–2.82))	37388	534 (1.79 (0.61–3.58))	0.22 (–0.71 to 1.16)	0.6385
Cochran's Q (*P*)		6.69 (0.0352)		99.47 (< 0.0001)	10.21 (0.0061)	
I^2 statistic (% (95% CI)		70.1 (0.0–89.1)		98.0 (96.9–98.6)	80.4 (0.0–91.9)	
Bias (*P*)		–5.08 (0.2873)		7.06 (0.6332)	—	

Akolekar R, Ultrasound Obstet Gynecol 2015

Prosedür ile İlişkili Kayıp Riski

Koriyonik Villus Örneklemesi



Akolekar R, Ultrasound Obstet Gynecol 2015

Neden Farklı Sonuçlar Var ?

- **Çalışma dizaynı**
  - Kontrollü çalışma yetersizliği
- **Hasta sayısının farklılığı**
  - (100 – 30.000)
- **Gebelik kaybının tanımlamasındaki farklılıklar**
  - 1 hf; 24 hf; 28 hf;
- **Zaman**
  - Ekipman, Tecrübe, Teknik.

American Journal of Obstetrics and Gynecology (2004) **191**, 608–16

ELSEVIER

AMERICAN JOURNAL of OBSTETRICS and GYNECOLOGY

www.elsevier.com/locate/ajog

Diagnostic mid trimester amniocentesis: How safe?

John W. Seeds, MD*

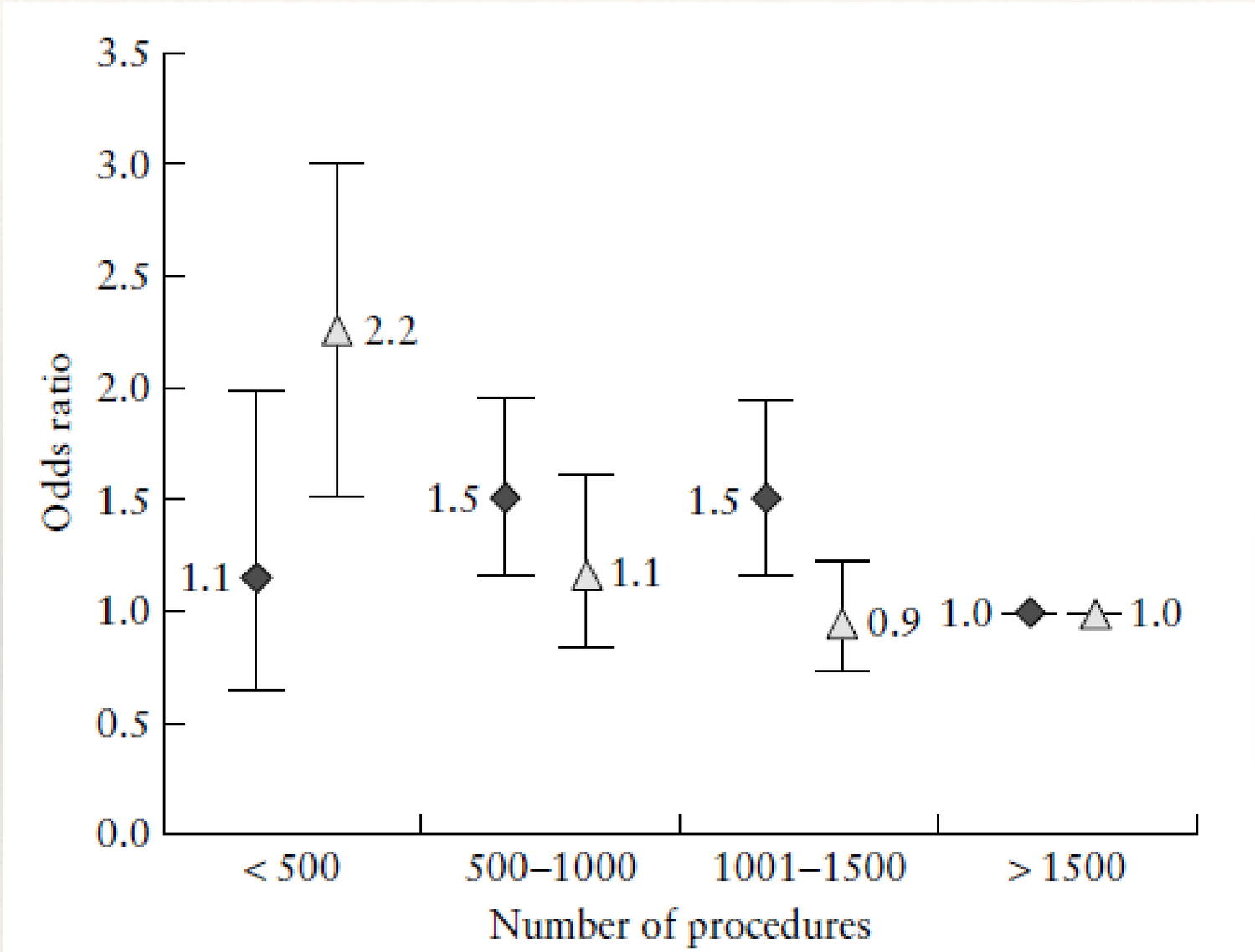
- 68,119 amniosentez
- Prosedür ile ilişkili kayıp riski % 0.6
- Backgroud risk % 1.08
- Total Kayıp Riski % 1.68
- USG yardımı yararlı.
- Transplasental geçiş riski değiştirmiyor.

Neden Farklı Sonuçlar Var ?

- Sistematik review, Agarwal K, Alfirevic Z, 2012
- **1990 – 2011 arası**
- CVS; 9 – 14 hafta
- A/S; 14 – 22 hafta
- Randomize çalışmalar olmadığı sürece karar vermek zor
- CVS ve A/S'de kayıp riski aynı, "background risk + %1"

Fetal Kayıp Riski – Teknik Faktörler

Tecrübe



Tabor A, Ultrasound Obstet Gynecol, 2009.

Fetal Kayıp Riski – Teknik Faktörler

Learning Curve

- CVS te Learning Curve önemli
- Prosedür ile ilişkili kayıp riski, 10 hafta üzerinde
  - Tecrübeli ellerde - Mid-trimester AS ile aynı
  - Tecrübe az olanlarda – Risk daha yüksek.
- 13 haftadan önce prenatal tanı isteyen hastalarda en emniyetli prosedür CVS
  - Erken amniyosentez önerilmemektedir.

Evans M, Current Opinion in Obstetrics and Gynecology 2008

Fetal Kayıp Riski – Bireysel Faktörler

Yaş, Kanama, Fetal Kayıp Hikayesi

Table 3. Fetal losses in the three age groups according to the history of bleeding in the current pregnancy or to a history of a previous second trimester miscarriage/termination. Values are given as *n* (%).

Age (years)	Bleeding in the current pregnancy	History of previous fetal loss	Controls
20–34	12/224 (5.4)	4/98 (4.1)	25/1288 (1.9)
35–39	26/410 (6.3)	12/160 (7.5)	66/2280 (2.9)
≥ 40	8/74 (10.8)	8/40 (20)	22/570 (3.9)
Total	46/708 (6.5)	24/298 (8)	113/4024 (2.8)

Papantoniou NE, BJOG 2001

Fetal Kayıp Riski – Bireysel Faktörler

Yaş, Kanama, Fetal Kayıp Hikayesi

Table 4—Fetal losses for study (amniocentesis) and control groups up to the 28th week, regarding predisposing factors

	Study group ($n=3910$)			Control group ($n=5324$)			χ^2
	No.	Losses	%	No.	Losses	%	p-value
Previous bleeding[a]	527	31	5.9	723	28	3.8	<0.04
Previous abortions[b]	258	18	6.9	334	12	3.5	<0.04
No predisposing factors	3125	30	0.96	4267	40	0.93	<0.76
TOPs[c]		214					
Total	3696	79	2.1	5324	80	1.5	<0.06

Antsaklis A, Prenatal Diagnosis 2000

Fetal Kayıp Riski – Teknik Faktörler

Plaental Lokalizasyon, Transplasental Geçiş

Placental localization	No.	(%)	NoM (%)
Anterior placenta	1012	(48.6)	16 (1.5)
Transpl. needle passage*			
Yes	476	(47.0)	7 (1.5)
No	334	(33.0)	5 (1.5)
Unknown	202	(20.0)	4 (2.0)
Posterior	928	(44.6)	8 (0.9)
Antero-posterior	105	(5.0)	3 (2.9)
Fundal placenta	31	(1.5)	1 (3.2)
No registration	7	(0.3)	0

Marthin T, Acta Obstet Gynecol Scand. 1997

Fetal Kayıp Riski – Teknik Faktörler

İğne İnsersiyon Sayısı

Number of needle insertions	Miscarriages (%)	No. of AMC's
1	22 (1.2)	1807
2	4 (1.8)	228
3	2 (3.8)	53

Marthin T, Acta Obstet Gynecol Scand. 1997

Fetal Kayıp Riski – Bireysel Faktörler

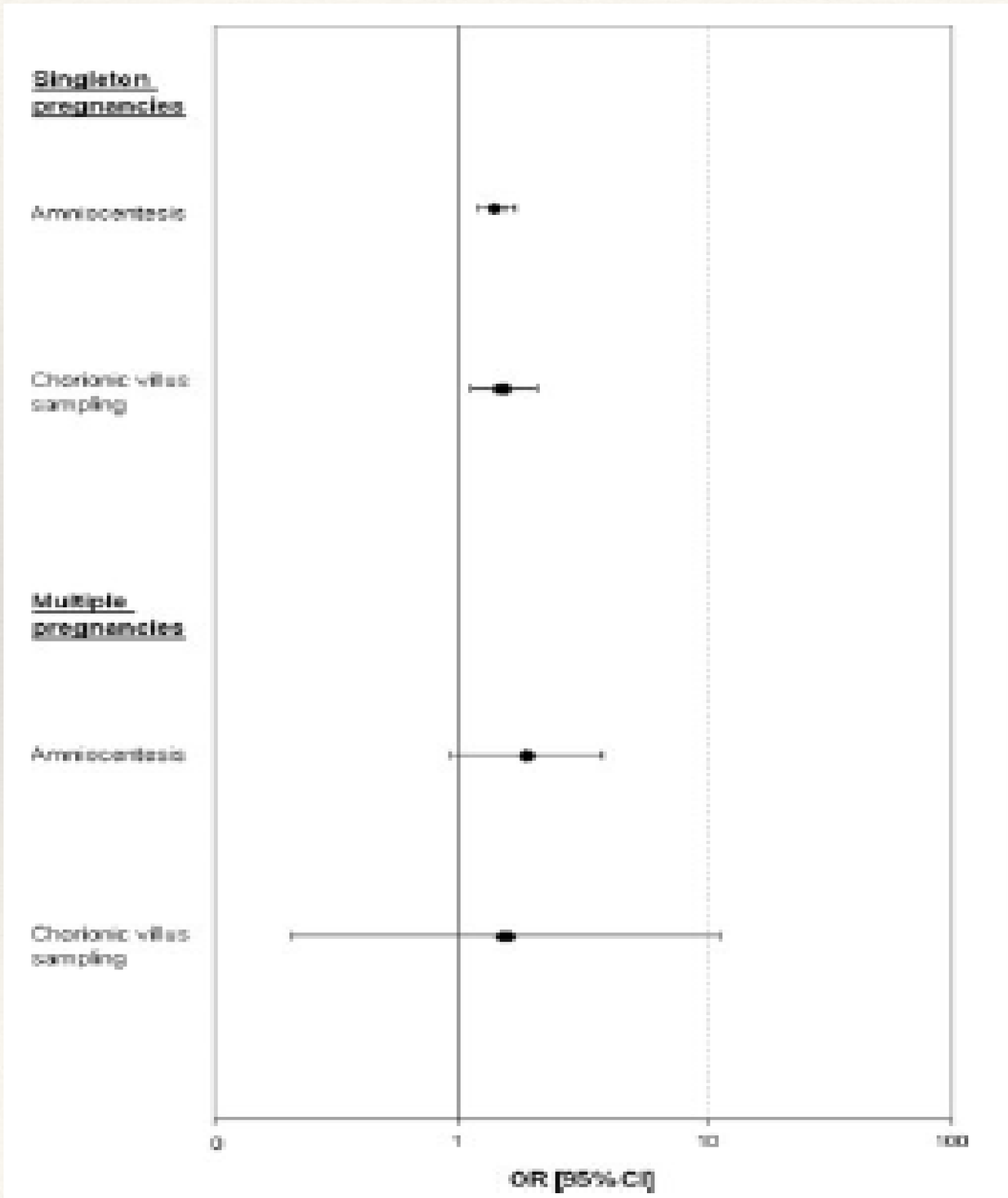
Vücut Kitle İndeksi

Table 4. Fetal Loss by Maternal Body Mass Index Category

	Normal Weight (BMI Lower Than 25)	Overweight (BMI 25.0–29.9)	Class I Obese (BMI 30.0–34.9)	Class II Obese (BMI 35.0–39.9)	Class III Obese (BMI 40.0 or Higher)	*P*
Amniocentesis (n)	4,777	3,260	1,528	687	527	
All fetal losses	4.2	4.2	4.9	3.8	5.5	.46
Excluding suspected termination	1.3	1.3	2.0	1.2	2.7	.03
CVS (n)	2,755	1,370	553	187	115	
All fetal losses	6.0	6.9	5.8	5.9	10.4	.32
Excluding suspected termination	2.7	3.6	3.3	3.3	4.6	.51

Harper LM, Obstet Gynecol, 2012

İnvaziv - Riskler



Abruptio Plasenta Riski

Tekil Gebeliklerde Risk Yüksek

Çoğul Gebeliklerde Değişmez

Tikkanen M, Prenatal Diagnosis 2011

	Model	Type of hypertension	OR*	CI (95%)
AC vs non-exposed	Crude	Gestational HT	0.85	0.74–0.98
		Mild PE	1.06	0.95–1.18
		Severe PE	1.10	0.93–1.30
AC vs non-exposed	Adjusted	Gestational HT	0.77	0.67–0.90
		Mild PE	1.02	0.91–1.14
		Severe PE	0.96	0.80–1.15
CVS vs non-exposed	Crude	Gestational HT	1.20	0.86–1.70
		Mild PE	1.07	0.79–1.45
		Severe PE	1.14	0.72–1.82
CVS vs non-exposed	Adjusted	Gestational HT	1.00	0.70–1.41
		Mild PE	1.07	0.78–1.46
		Severe PE	1.05	0.66–1.69
CVS vs AC	Crude	Gestational HT	1.41	0.99–2.02
		Mild PE	1.01	0.74–1.38
		Severe PE	1.04	0.65–1.67
CVS vs AC	Adjusted	Gestational HT	1.29	0.90–1.84
		Mild PT	1.05	0.77–1.44
		Severe PE	1.10	0.68–1.77

- AS ve CVS
- **PIH riskini artırmaz.**

Lindgren P, BJOG 2010

Outcome	Non-exposed (*N* = 47,854)		Amniocentesis (*N* = 21,748)					Chorionic villus sampling (*N* = 1984)				
	n	*n*/1000	*n*	*n*/1000	OR		CI adjusted	*n*	*n*/1000	OR		CI adjusted
					Crude	Adjusted				Crude	Adjusted	
Normal delivery	26,890	561.9	10,792	496.2	0.77	0.93	0.90–0.97	1085	546.9	0.94	1.06	0.96–1.16
Bleeding in late gestation	1703	35.6	852	39.2	1.10	0.97	0.88–1.06	72	36.3	1.02	0.94	0.73–1.20
Placenta praevia	317	6.6	138	6.3	0.96	0.82	0.65–1.02	11	5.5	0.84	0.70	0.38–1.30
Placental abruption	367	7.7	155	7.1	0.93	0.92	0.74–1.13	14	7.1	0.92	0.88	0.50–1.52
Unspecified bleeding	1096	22.9	597	27.5	1.20	1.04	0.93–1.16	50	25.2	1.10	1.03	0.77–1.39
Postpartum bleeding	4251	88.8	2069	95.1	1.08	0.96	0.90–1.02	161	81.1	0.91	0.88	0.74–1.04
Retained placenta	343	7.2	181	8.3	1.16	1.04	0.85–1.28	13	7.6	1.06	1.27	0.74–2.18
Amnion-related complications	2434	50.9	1382	63.5	1.27	1.15	1.06–1.24	101	50.9	1.00	0.88	0.71–1.09
Oligohydramniosis	379	7.9	250	11.5	1.46	1.09	0.91–1.30	9	4.5	0.57	0.44	0.23–0.87
Premature rupture of membranes	583	12.2	302	13.9	1.14	1.13	0.96–1.32	17	8.6	0.70	0.63	0.39–1.04
Delayed delivery	1291	27.0	731	33.6	1.26	1.14	1.03–1.26	61	30.7	1.14	1.10	0.84–1.45
Chorioamnionitis	144	3.0	81	3.7	1.24	1.30	0.96–1.77	10	5.0	1.68	1.60	0.81–3.13
Fever or sepsis in labour	199	4.2	134	6.2	1.48	1.19	0.93–1.51	7	3.5	0.85	0.92	0.42–2.00
Hypotonic uterine dysfunction	5127	107.1	3049	140.2	1.36	1.12	1.06–1.18	198	99.8	0.92	1.10	0.94–1.30
Hypertonic uterine dysfunction	78	1.6	37	1.7	1.04	0.94	0.61–1.46	5	2.5	1.55	1.54	0.60–3.98
Protracted labour	475	9.9	179	8.2	0.83	0.84	0.70–1.02	21	10.6	1.07	1.10	0.69–1.76
Instrumental vaginal delivery	2789	58.3	1607	73.9	1.29	1.11	1.03–1.19	120	60.5	1.04	1.11	0.91–1.36
Elective caesarean	3902	81.5	2204	101.3	1.27	1.09	1.02–1.16	202	101.8	1.28	1.02	0.86–1.21
Emergency caesarean	3789	79.2	1898	87.3	1.11	0.93	0.87–0.99	167	84.2	1.07	0.97	0.82–1.16

35–49 yaş arası

- AS önemli advers sonuçlar yaratmaz.
- Ancak, 15. hafta öncesi uygulanırsa minör risk artışı mevcut.

Caderholm M, BJOG 2003.

Fetal Kayıp Riski – Bireysel Faktörler

Kanama, Sigara, Abortion Hikayesi, VKİ, Yaş

	n = patients (%)	n = procedure-related fetal losses	significance p<0.05
vaginal bleeding (first trimester)	511 (6.5%)	6 (0.096%)	p=0.008
maternal smoking >10 cigarettes/d	439 (5.6%)	3 (0.05%)	p=0.471
history of ≥3 spontaneous abortions	163 (2.1%)	2 (0.03%)	p=0.119
BMI >30	748 (9.6%)	2 (0.03%)	p=0.449
maternal age >40	832 (10.7%)	8 (0.11%)	p=0.081

Enzensberger C Ultraschall Med. 2012

Fetal Kayıp Riski – Bireysel Faktörler

Yaş , Kanama, Abortion Hikayesi, VKİ, **Myom, Boyalı AS**

	OR (95% CI)	*p* value
Age (years)		
<34	1.0*	
≥34	2.19 (1.00–4.77)	0.049
Hemorrhage during pregnancy		
No	1.0	
Minor (spotting)	1.96 (1.14–3.38)	0.015
Serious	2.74 (1.23–6.11)	0.014
Number of surgical abortions		
None	1.0	
1–2	1.32 (0.8–2.18)	0.280
≥3	3.44 (1.32–8.94)	0.011
Number of miscarriages in 1st trimester		
None	1.0	
1–2	1.25 (0.75–2.06)	0.391
≥3	1.93 (1.00–3.73)	0.050
Uterine fibroid		
No	1.0	
Yes	2.52 (1.01–6.40)	0.048
Stained amniotic fluid		
No	1.0	
Yes	3.74 (1.05–13.29)	0.041

Theodora M , J Matern Fetal Neonatal Med. 2016

Amniyosentez Sonrası Kayıp Riski Ne Kadar Devam Eder ?

Weeks after amniocentesis	Fetal loss	
	No.	%
0	2	5.3
1	2	5.3
2	3	7.9
3	4	10.5
4	7	18.4
5	5	13.5
6	4	10.5
7	2	5.3
8	2	5.3
9	2	5.3
10	2	5.3
13	2	5.3
20	1	2.6
23	1	2.6
24	1	2.6
Total	40	100

Mazza V, Prenatal Diagnosis 2007

Amniyosentez Sonrası Kayıp Riski Ne Kadar Devam Eder ?

Table 2. Fetal losses according to time intervals in the three age groups. Values are given as *n* (%).

Time interval	Age 20-34 ($n=1610$)	Age 35-39 ($n=2850$)	Age ≥40 ($n=570$)	*P*
0-15 days	15 (0.9)	20 (0.7)	4 (0.7)	0.687
15th day–28 weeks	16 (1)	46 (1.6)	15 (2.6)	0.014
28 weeks–term	10 (0.6)	32 (1.1)	10 (1.8)	0.016
Total	41 (2.54)	98 (3.44)	29 (5.1)	0.003

Papantoniou NE, BJOG 2001

İkiz Gebeliklerde Fetal Kayıp Riski

- Birçok yayınlanan Guideline Bu konu üzerinde durmamıştır.
- **The Royal College of Obstetricians and Gynaecologists' guideline**
  - CVS ve Amniyosentez sonrası kayıp riski tekil gebeliklere göre daha yüksektir.
- **The Society of Obstetricians and Gynaecologists of Canada guideline**
  - İkiz gebeliklerde Amniyosentez sonrası 24-28 nci gebelik haftalarından önce kayıp riski % 1 – 4 arasındadır.
- **The American College of Obstetricians and Gynecologists**
- **The Royal Australian and New Zealand College of Obstetricians and Gynaecologists guideline**
  - İkiz gebeliklerde kayıp riskini belirtmemiştir.

Ultrasound Obstet Gynecol 2002; 20: 476–481

Second-trimester amniocentesis vs. chorionic villus sampling for prenatal diagnosis in multiple gestations

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Outcome of twin pregnancies that underwent selective feticide

	Amniocentesis	*Chorionic villus sampling*	P
Pregnancies	9	12	
Miscarriage	0	1/12 (8.3%)	NS
Intrauterine death	0	0	
Delivery ≤ 32 weeks	2/9 (22.2%)	2/11 (18.2%)	NS
Delivery ≤ 35 weeks	2/9 (22.2%)	2/11 (18.2%)	NS
Perinatal mortality ≤ 28 weeks	0	0	NS
Perinatal mortality > 28 weeks	1/9 (11.1%)	0	NS
Neonatal mortality	1/9 (11.1%)	0	NS
Total loss	1/9 (11.1%)	1/12 (8.3%)	NS

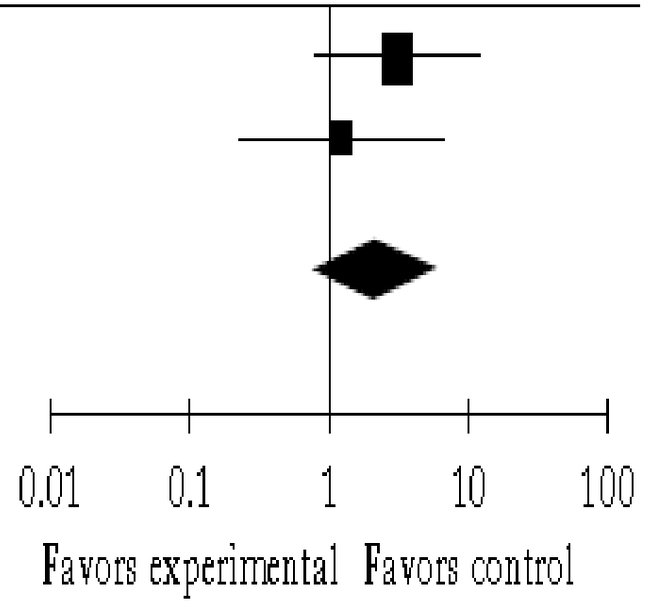
İkiz Gebeliklerde Fetal Kayıp Riski

Koriyonik Villus Örneklemesi

Study or subgroup	Transabdominal approach Events	Total	Transcervical approach Events	Total	Weight	Risk ratio M-H, Random, 95% CI	Year
De Catte (1996)[12]	6	48	3	72	60.8%	3.00 (0.79, 11.42)	1996
De Catte (2000)[10]	4	93	2	55	39.2%	1.18 (0.22, 6.25)	2000
Total (95% CI)		141		127	100.0%	2.08 (0.73, 5.91)	
Total events	10		5				

Heterogeneity: $Tau^2 = 0.00$; $\chi^2 = 0.73$, df = 1 ($P = 0.39$); $I^2 = 0\%$

Test for overall effect: $Z = 1.38$ ($P = 0.17$)



Agarwal K, Ultrasound Obstet Gynecol 2012

İkiz Gebeliklerde Fetal Kayıp Riski

Amniyosentez

Study or subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Risk ratio M-H, Random, 95% CI	Year	Risk ratio M-H, Random, 95% CI
Ghidini (1993)[29]	2	101	2	108	8.5%	1.07 (0.15, 7.45)	1993	
Ko (1998)[26]	0	128	2	205	3.5%	0.32 (0.02, 6.60)	1998	

Test for overall effect: $Z = 2.04$ ($P = 0.04$)

0.01 0.1 1 10 100

Favors experimental Favors control

Figure 7 Pregnancy loss before 24 weeks after amniocentesis. M-H, Mantel-Hanzel.

İkiz Gebeliklerde AS ve CVS sonrası kayıp riski ile ilgili RCT ler olmadan karar vermek zor

Background risk + % 1

Agarwal K, Ultrasound Obstet Gynecol 2012

Komplikasyon riskini Azaltacak Önlem var mı?

Progesteron

Pregnancy complications after sampling[a]

	Progesterone (311)	Controls (273)
Miscarriages	4 (1.3%)	3 (1.1%)
Premature rupture of membranes	19 (6.1%)	17 (6.2%)
Premature delivery (<37 weeks)	27 (8.7%)	20 (7.3%)
Intrauterine fetal death	2 (0.6%)	3 (1.1%)

[a] $P > 0.05$.

Corrado F et al, European Journal of Obstetrics & Gynecology and Reproductive Biology 2002.

“Impact of a new national screening policy for Down’s syndrome in Denmark; “population based cohort study”

- Birinci trimestir tarama (2004-6), sonuçlar (2005-6)
- 19 merkez, yılda 65 000 gebelik
- Sonuçlar;

  - *Down send. Doğum; 2000-4 yılda 55-65, 2005’te 31, 2006’da 32*
  - *Toplam CVS ve AS sayısı; 2000’de 7524, 2006’da 3510*
  - *DR; 2005’te %86, 2006’da %93 ve FP sırası ile %3.9 ve %3.3*

Ekelund CK, Tabor A Nov 2008, BMJ

Ultrasound Obstet Gynecol 2009; 34: 19–24
Published online 5 June 2009 in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/uog.6377

Fetal loss rate after chorionic villus sampling and amniocentesis: an 11-year national registry study

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Risk

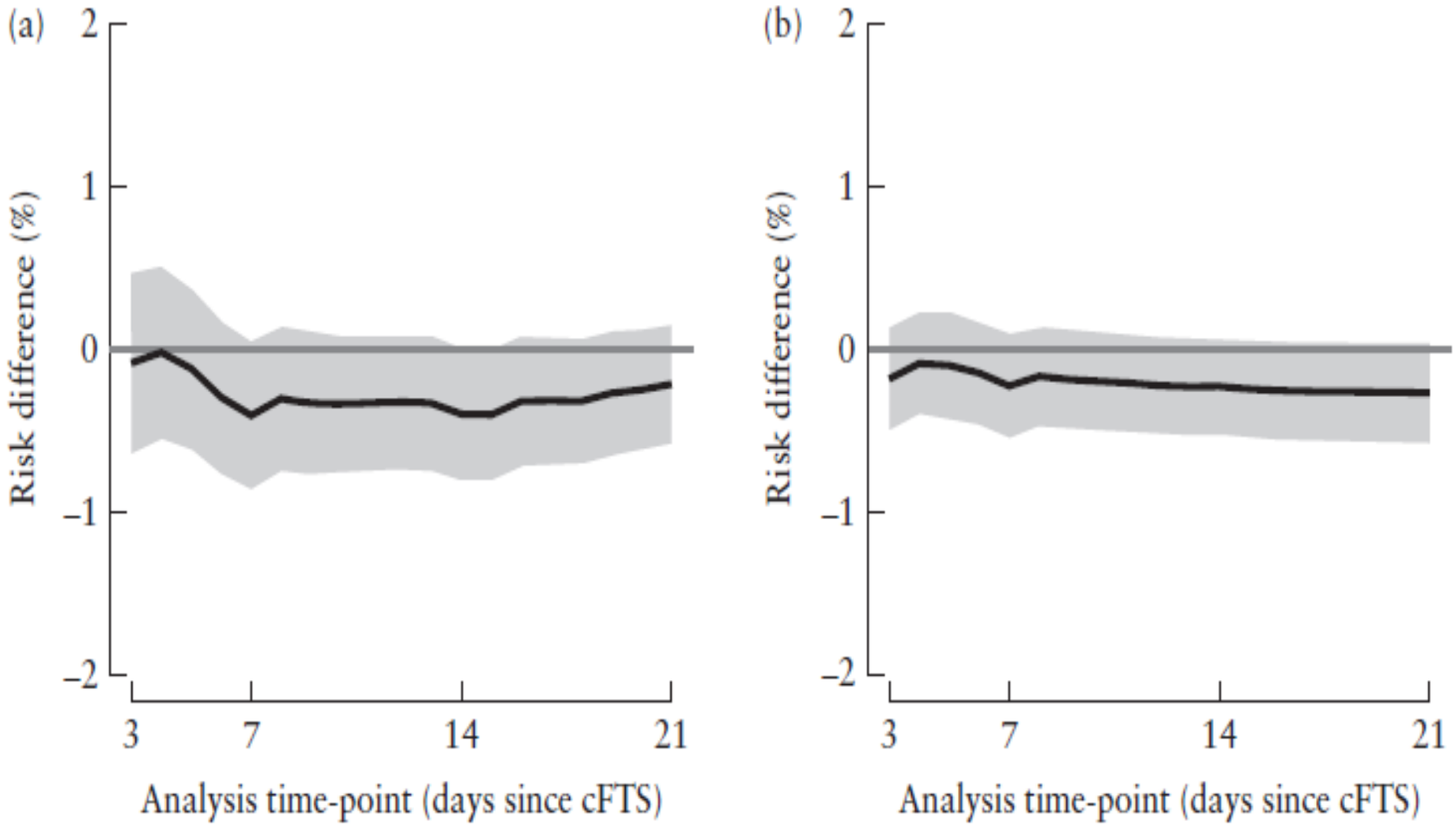


Figure 2 Effect of chorionic villus sampling (CVS) on risk of miscarriage (a) and risk of stillbirth (b) from analysis time-points 3–21 days after combined first-trimester screening (cFTS), showing average risk differences across propensity score strata.

Risk

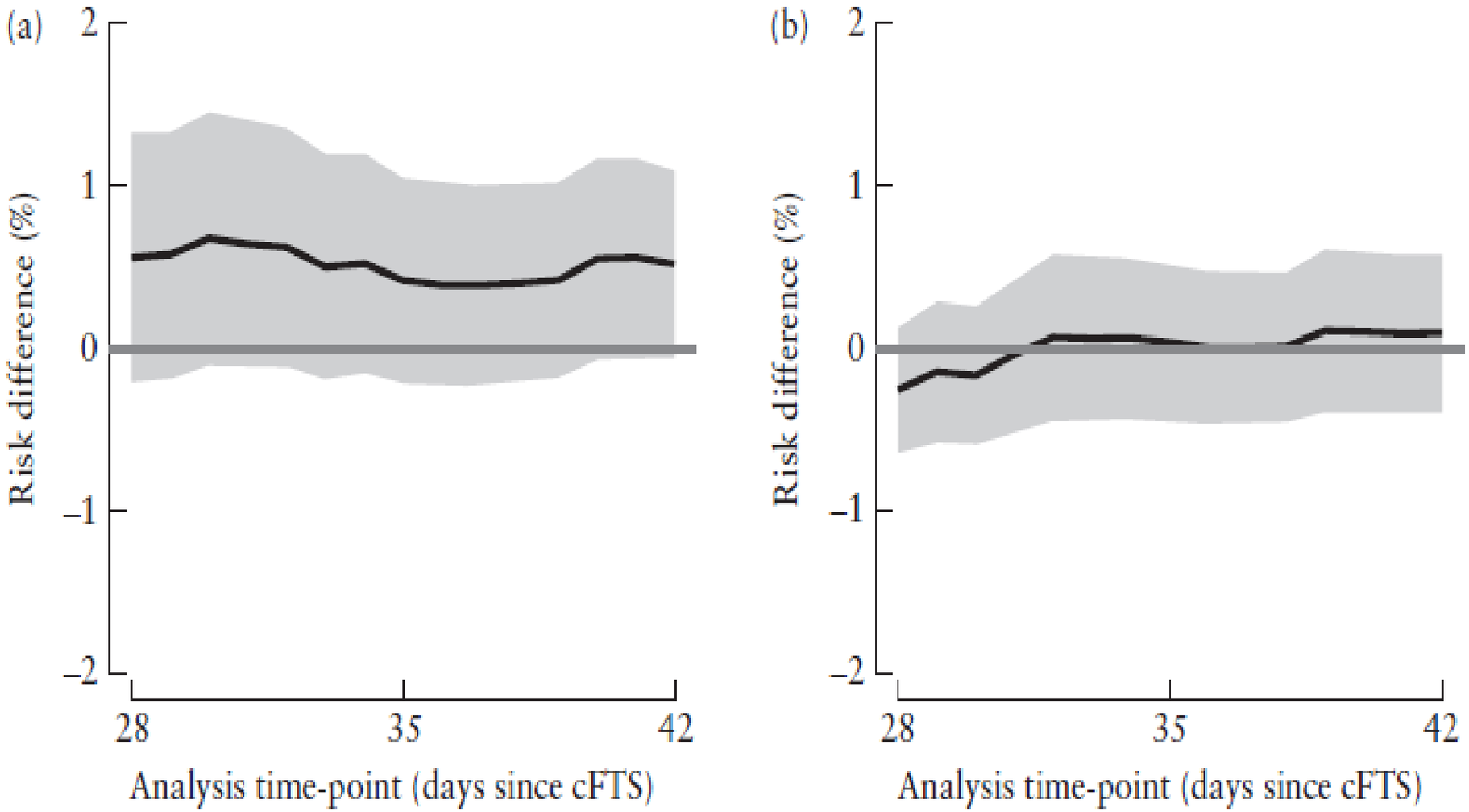
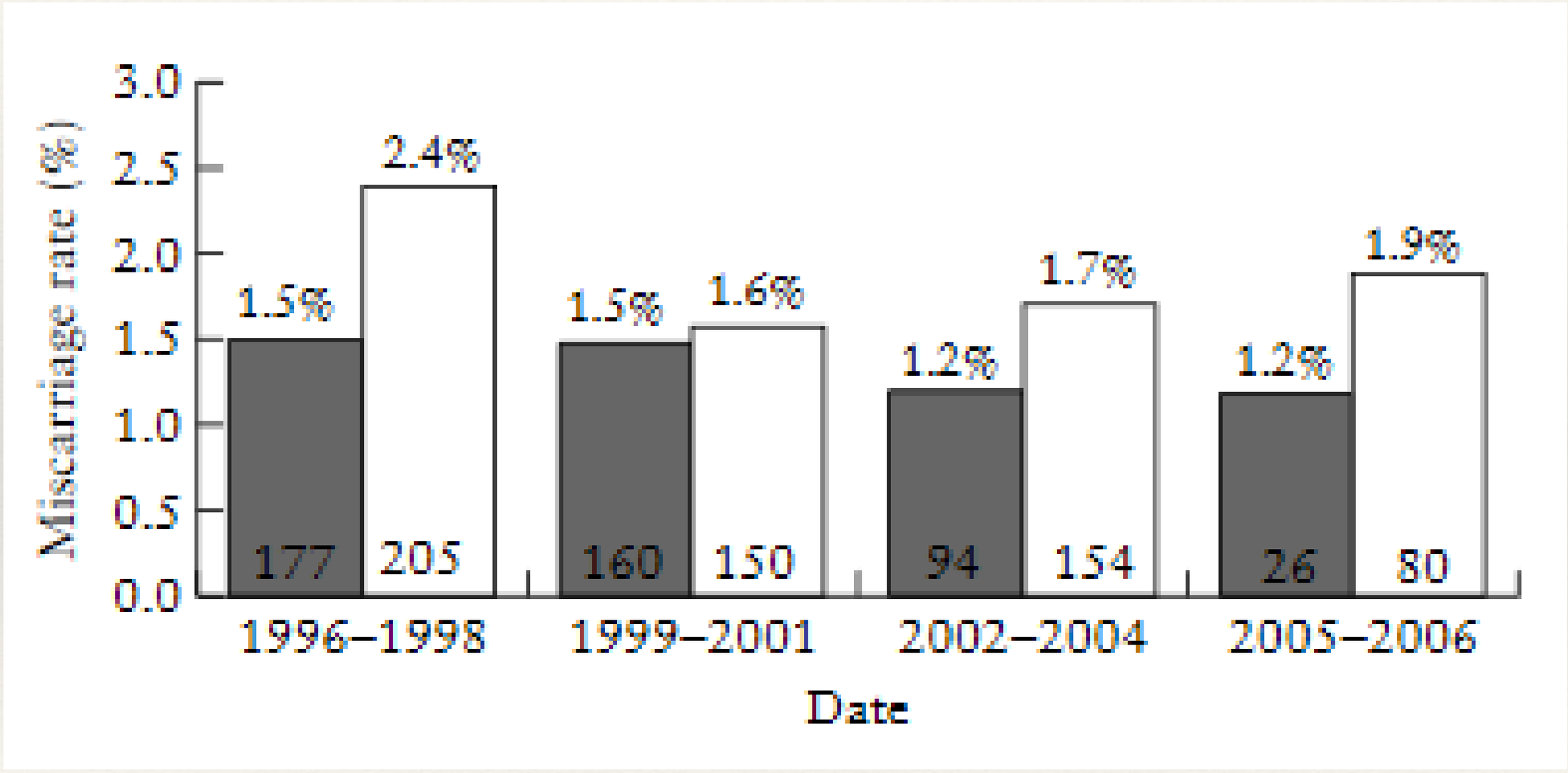


Figure 3 Effect of amniocentesis (AC) on risk of miscarriage (a) and risk of stillbirth (b) from analysis time-points 28–42 days after combined first-trimester screening (cFTS), showing average risk differences across propensity score strata.

Yıllara Göre Kayıp Riski



Maternal Yaşa Göre Risk

Table 4 Postprocedural miscarriage rate per 100 pregnancies following amniocentesis (AC) and transabdominal chorionic villus sampling (CVS) in four time periods, according to maternal age

	Maternal age (years)					
	< 30		*30–34*		*> 34*	
Time period	*AC*	*CVS*	*AC*	*CVS*	*AC*	*CVS*
1996–1998	1.1	1.2	1.4	2.2	1.7	2.6
1999–2001	1.3	1.4	1.4	1.5	1.6	1.6
2002–2004	2.2	1.3	1.3	1.0	1.0	1.9
2005–2006	2.3	2.3	0.8	2.0	0.9	1.6
Overall	1.5	1.5	1.3	1.7	1.4	2.0

Kromozomal defektlerin tanısı

16. Hafta Amnio Vs CVS at 9-13 hafta

Randomize Çalışmalar

Çalışma		N	merkez	Fetal kayıp (%) CVS	Amnio
Kanada	1990	2391	11	7.6	7.1
Avrupa	1991	3201	31	13.6	9.0
Danimarka	1992	2069	2	6.3	6.4
Finlandiya	1993	800	1	7.8	8.3
İspanyol	1999	1313	1	2.2	2.8

CVS'te işleme bağlı kayıp oranı, amnio ile aynı (%1)

Sonuçlar

- Prenatal Tarama ve Tanı stratejilerindeki Gelişim son dekatta prenatal invaziv test uygulamalarını birinci trimestire ve CVS'e doğru kaymasına neden olmuştur.
- Prenatal İnvaziv Test Kayıp Riski Bireysel olarak farklılıklar göstermektedir.
- Genel olarak 1/200 olan kayıp riski teknik ve ultrasonografinin kullanımı ile 1/600'lere inmesine rağmen Guideline'lar halen 1/200 oranını söylemektedir.
- Progesteron kullanımı, İnvaziv prosedür sonrası kayıp riskini azaltmamaktadır.

Sonuçlar

- Cihaz kalitesindeki iyileşme
- Deneyim, işlem sayısı
- İşlem için doğru zamanlama, erken amnio, CVS!
- Doğru vaka seçimi

  - kanama(uzun süreli, hematom, ileri yaş)

  - kontrakte uterus, kısa serviks

  - zor vaka(plasental lokasyon, fetal pozisyon, hareketlilik,CVS'te posterior plasenta, anne uyumu)

Teşekkürler