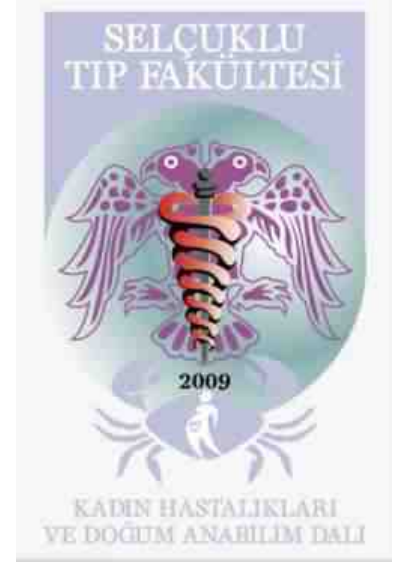


İNTRAUTERİN İNSEMİNASYON

KİME? NE ZAMAN? KAÇ KEZ?



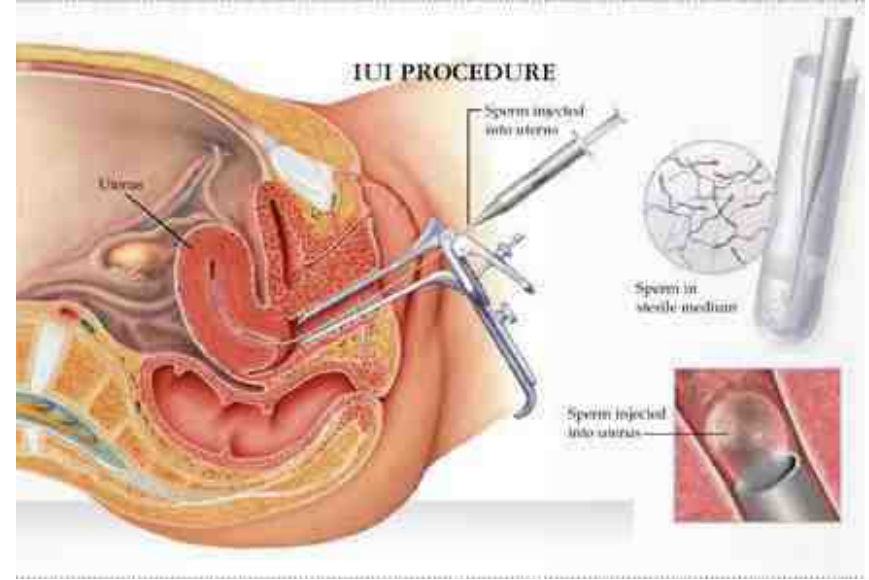
Dr. Özlem Seçilmiş Kerimoğlu

Sunumun ana başlıkları

- IUI KİME YAPILMALI?
 - Endikasyonlar
- IUI KİME YAPILMAMALI?
 - Kontraendikasyonlar
 - Yaş faktörü
- IUI NE ZAMAN YAPILMALI?
 - LH surge takip edilen hastalar
 - HCG yapılan hastalar
- IUI KAÇ KEZ YAPILMALI?

TANIM

- Çeşitli yöntemlerle hazırlanmış ve konsantre olmuş hareketli spermlerin direkt olarak uterin kaviteye verilmesidir



KIME?

ENDİKASYONLAR?

- I. Açıklanamayan infertilite
- II. Erkek faktörü
- III. Endometriozis
- IV. Servikal faktör
- V. HIV(+) eşe sahip HIV (-) kadınlar

Açıklanamayan infertilite

Neden IUI?

- Fertilizasyon adayı sperm sayısını artırmak
- Normal morfolojili ve hareketli sperm konsantrasyonu artırmak
- Servikal faktörü ekarte etmek

Açıklanamayan infertilite

IUI vs TI veya Beklentisel Yaklaşım

Intra-uterine insemination for unexplained subfertility (Review)

Veltman-Verhulst SM, Cohlen BJ, Hughes E, Heineman MJ

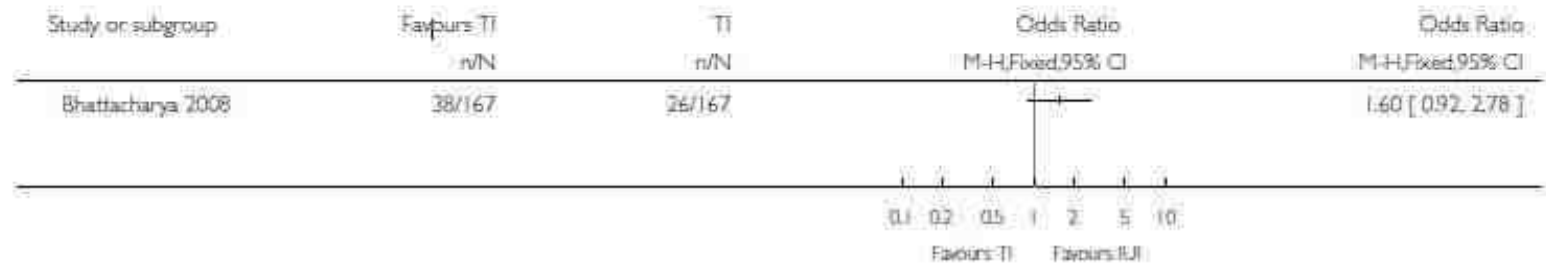
The Cochrane Library, 2012

Analysis 1.1. Comparison 1 IUI versus TI or expectant management both in natural cycle, Outcome 1 Live birth rate per couple (all cycles).

Review: Intra-uterine insemination for unexplained subfertility

Comparison: 1 IUI versus TI or expectant management both in natural cycle

Outcome: 1 Live birth rate per couple (all cycles)



Açıklanamayan infertilite

Neden Ol?

- Oosit sayısını artırarak fertilizasyon ihtimalini artırmak
- Ovulasyon zamanını ayarlayabilmek
- Luteal faz defektlerini düzeltmek
- Folikül maturasyon defektleri
- Fertilizasyon defektleri
- Endometrial kalitenin iyileştirilmesi

Açıklanamayan infertilite

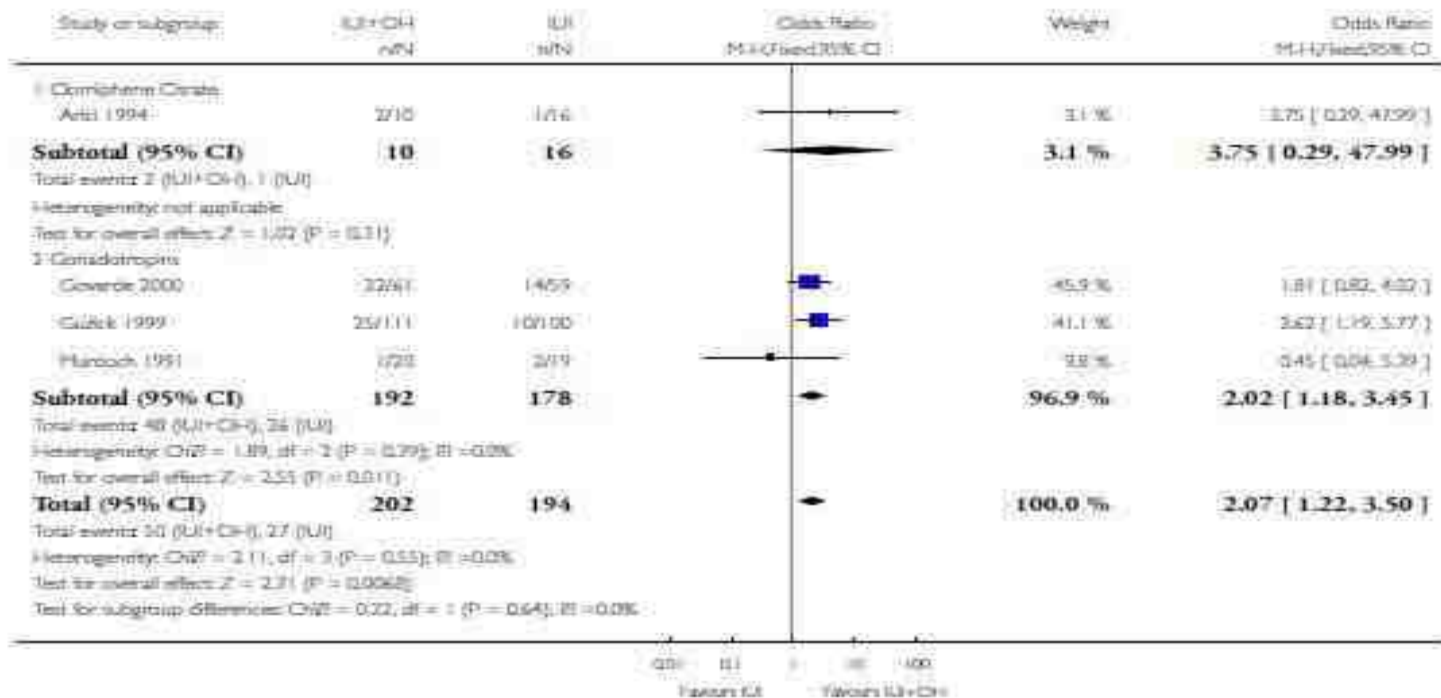
IUI veya OI+IUI

Analysis 3.1. Comparison 3 IUI in natural cycle versus IUI in stimulated cycle, Outcome 1 Live birth rate per couple (all cycles).

Review: Intra-uterine insemination for unexplained subfertility.

Comparison: 3 IUI in natural cycle versus IUI in stimulated cycle.

Outcome: 1 Live birth rate per couple (all cycles).



Açıklanamayan infertilite

Intra-uterine insemination for unexplained subfertility (Review). Veltman-Verhulst SM, Cohlen BJ, Hughes E, Heineman MJ
The Cochrane Library, 2012

- 14 RCT
- Sadece IUI, T1'a göre gebelik oranlarında hafif artış sağlar ama canlı doğum oranları benzerdir.
- Oİ+IUI en etkili tedavi modalitesidir
- Oİ+IUI sikluslarında canlı doğum oranı sadece IUI'a göre 2 kat fazladır
- Çoğul gebelikten kaçınılmalı

Erkek Faktörü

- Vajinal ejakülasyon yokluğu
 - Fizyolojik veya organik impotans
 - Ciddi hipospadias,
 - Retrograd ejakülasyon
- Anormal sperm parametreleri
 - Oligozoospermia < 15 milyon/ml
 - Asthenozoospermia < 32% motil spermatozoa
 - Teratozoospermia < 4% normal form

Erkek Faktörü

Effect of semen characteristics on pregnancy rate following intrauterine insemination

Uranchimeg Dorjpurev, Akira Kuwahara, Yuya Yano, Tomoko Taniguchi, Yuri Yamamoto, Ayako Suto, Yu Tanaka, Toshiya Matsuzaki, Toshiyuki Yasui, and Minoru Irahara

Department of Obstetrics and Gynecology, Institute of Health Biosciences, the University of Tokushima Graduate School, Tokushima, Japan

Table 4. Relationship of initial sperm parameters for pregnancy rates per cycles.

Sperm parameters	Number of the cycles	Number of pregnancies	Pregnancy rate per cycle (%)	P value
Concentration (10^6 /ml)				
< 20.0	145	6	4.1	0.1
≥ 20.0	754	55	7.3	
Mobility (%)				
< 30.0	392	14	3.6	0.001
≥ 30.0	507	47	9.3	
Total motile sperm count				
< 10×10^6	291	11	3.8	0.01
$\geq 10 \times 10^6$	608	50	8.2	

Erkek Faktörü

Intra-uterine insemination for male subfertility

Bensdorp A, Cohlen BJ, Heineman MJ, Vanderkerchove P. Intra-uterine insemination for male subfertility. *Cochrane Library*, 2010

- IUI versus TI or expected management both in natural cycles
- IUI versus TI both in cycles with OH
- IUI in natural cycles versus TI + OH
- IUI + OH versus TI in natural cycles
- IUI in natural cycles versus IUI + OH

Endometriosis

- Minimal-mild endometriosis
 - Ovulatory dysfunction
 - Endometrial receptivity decrease
 - Sperm function and transport impairment
 - Inflammatory environment's toxic effect on gametes and embryos

Endometriosis

Endometriosis and infertility: a committee opinion

The Practice Committee of the American Society for Reproductive Medicine
American Society for Reproductive Medicine, Birmingham, Alabama

TABLE 1

Cycle fecundity in women with stage I or II endometriosis, according to treatment (reported as percentage).

Treatment	Group				
	Unexplained infertility		Endometriosis-associated infertility		
Reference	Guzick et al. (55)	Deaton et al. (41)	Chaffkin et al. (57)	Fedele et al. (42)	Kemmann et al. (43)
No treatment or intracervical insemination	2	3.3	—	4.5	2.8
IUI	5 ^a	—	—	—	—
Clomiphene	—	—	—	—	6.6
Clomiphene/IUI	—	9.5 ^a	—	—	—
Gonadotropins	4 ^a	—	6.6	—	7.3 ^a
Gonadotropins/IUI	9 ^a	—	12.9 ^a	15 ^a	—
IVF	—	—	—	—	22.2 ^a

Note: Data presented as percent.
* P < .05 for treatment vs. no treatment.

Practice Committee. Endometriosis and infertility. *Fertil Steril* 2012.

Endometriozis

- Oİ+IUI vs. Beklentisel → Gebelik x5.6 artar
- Oİ+IUI vs. Sadece Oİ → Gebelik x2 artar
- Oİ+IUI vs. Sadece IUI → Gebelik x5.3 artar

HIV Pozitif Erkek

- Yaklaşık 40 milyon HIV(+) birey
- Hastaların çoğu reproduktif dönemde genç erkekler
- Enfekte bireylerin 1/3'ünün çocuk sahibi olma isteği var
- Partnerinde fertilite problemi olmayan ve normal semen analizi olan hastalar için IUI bir seçenek

HIV Pozitif Erkek

- Yıkama teknikleri, spermi HIV virüsü içeren seminal sıvıdan temizler.
- Teorik olarak transmisyon riski var.
- Ancak anne veya bebekte bugüne dek gösterilmiş HIV transmisyonu yok.
- IUI horizontal geçişi önleyebilir.

HIV Pozitif Erkek

Systematic review of the effectiveness and safety of assisted reproduction techniques in couples serodiscordant for human immunodeficiency virus where the man is positive

Fertility and Sterility® Vol. 95, No. 5, April 2011

- 1184 HIV serodiscordan çift, 3900 Oİ+IUI siklusu
- Siklus başına gebelik oranı %18
- Kümülatif gebelik oranı %50
- Anne ve bebeklerde serokonversiyon yok

Anovulation/PCOS

Controlled ovarian hyperstimulation in women with polycystic ovarian syndrome with or without intrauterine insemination

Amir Wisner, Einat Shalom-Paz, Shaune Leigh Reinblatt, Hananel Holzer & Togas Tulandi

Table III. Total pregnancy rate and pregnancy rates according to the type of the treatment.

Treatment types	TIC	IUI	P value
Clomiphene citrate	12/85 (14.1%)	4/53 (7.5%)	NS
Gonadotropins	7/18 (38.8%)	19/74 (25.7%)	NS
Aromatase inhibitors	1/11 (9.1)	1/18 (5.5%)	NS
Total pregnancy rate	20/114 (17.5%)	24/145 (16.6%)	NS
Total miscarriage rate	2/20 (10%)	4/24 (16.7%)	NS
Ectopic pregnancy rate	0/20 (0%)	2/24 (8.3%)	NS
Total live birth rate	18/114 (15.8%)	18/145 (12.4%)	NS

Anovulasyon/PCOS

Intrauterine insemination versus timed intercourse with clomiphene citrate in polycystic ovary syndrome: a randomized controlled trial

HATEM ABU HASHIM¹, OSAMA OMBAR² & IBRAHIM ABD ELAAL³

Table 2. Outcome in CC/MI and CC/TI groups:

	Group A (CC/MI) (n=93)	Group B (CC/TI) (n=95)	p-value
Clinical pregnancy/ cycle	22/259 (8.49%)	21/266 (7.89%)	0.26
Clinical pregnancy/ ovulatory cycle	22/135 (16.3%)	21/137 (15.3%)	0.28
Clinical pregnancy/ woman	22/93 (23.6%)	21/95 (22.1%)	0.33
No. of twin pregnancies (%)	2/22 (9%)	2/21 (9.5%)	0.46
Miscarriage/ pregnancy	4/22 (18.1%)	4/21 (19%)	0.31
Live birth rate	18/93 (19.35%)	17/95 (17.89%)	0.33

Anovulasyon/PCOS

Consensus on infertility treatment related to polycystic ovary syndrome

The Thessaloniki ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group March 2–3, 2007, Thessaloniki, Greece*

- Tedavi → Ovulasyon indüksiyonu
- Neden IUI?
 - Eşlik eden erkek faktörü varlığında
 - Başarılı Ol'na rağmen gebelik gerçekleşmezse denenmeli

KİME

UYGULANMAMALI?

Kontraendikasyonları

- Servikal atrezi
- Servisit
- Endometrit
- Bilateral tubal obstruksiyon
- Ciddi oligospermi

KAÇ YAŞINA KADAR?

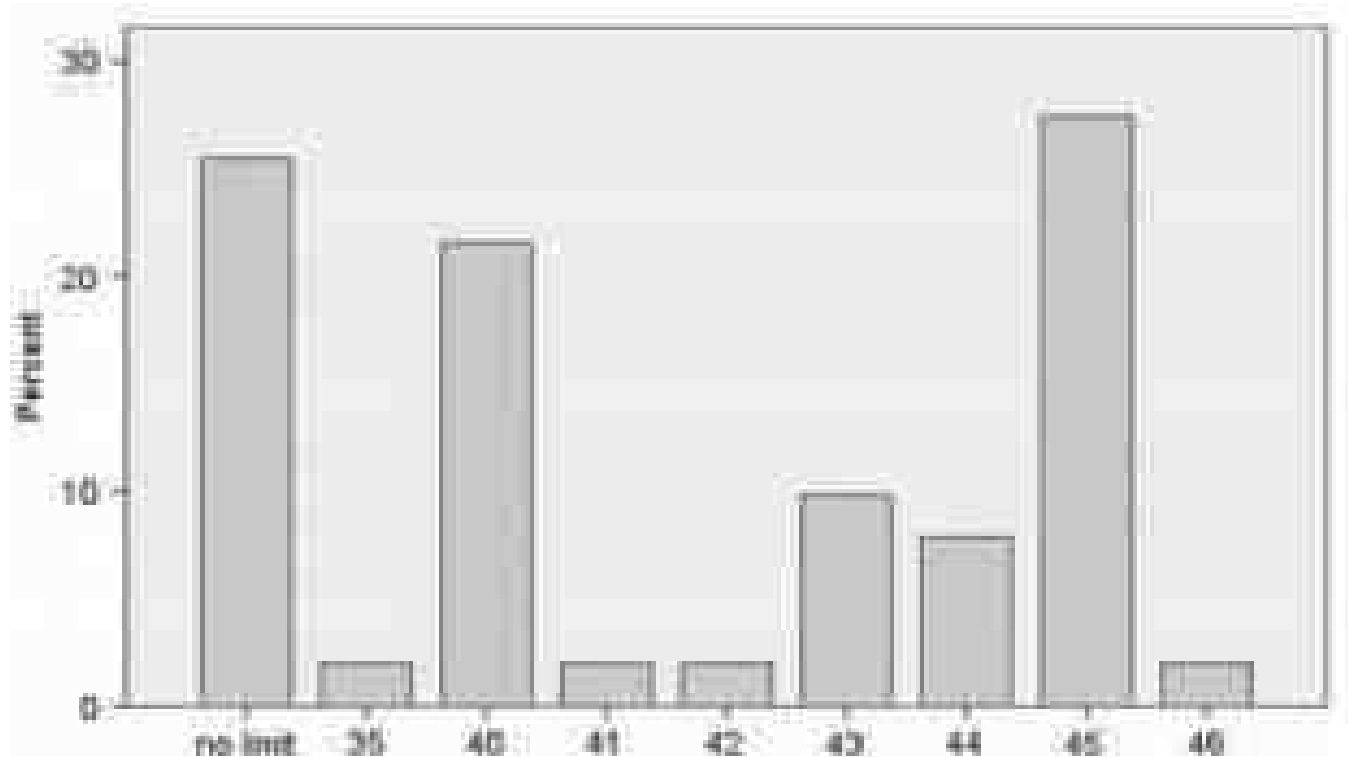


Figure 1. Age limit for application of IUI.

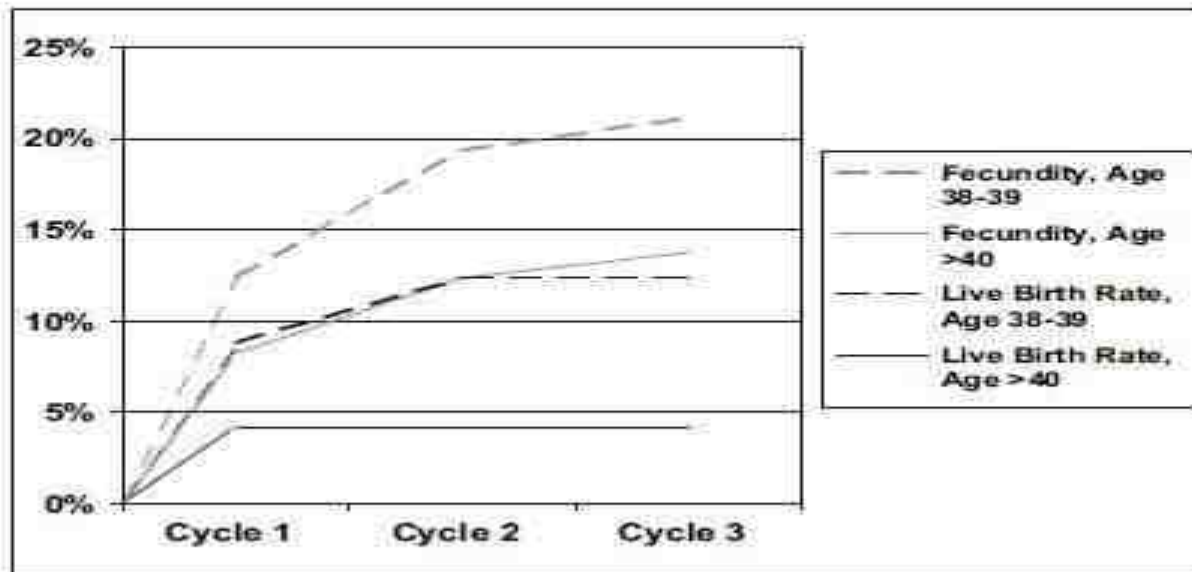
KAÇ YAŞINA KADAR?

	Yaş	CPR	LBR
Corsan, 1996	≥40	%7	%2.3
	≥43	%5.2	-
Haebe, 2002	40-42	%15	%9.8
	≥43	-	%4.2
Tsafir, 2002	40-46	%3	%1
Andersen, 2005	≥40	%9.7	
ASRM, 2006	≥40	-	%5 max
Harris, 2010	≥40	%12.3	%4.1

KAÇ YAŞINA KADAR?

FIGURE 1

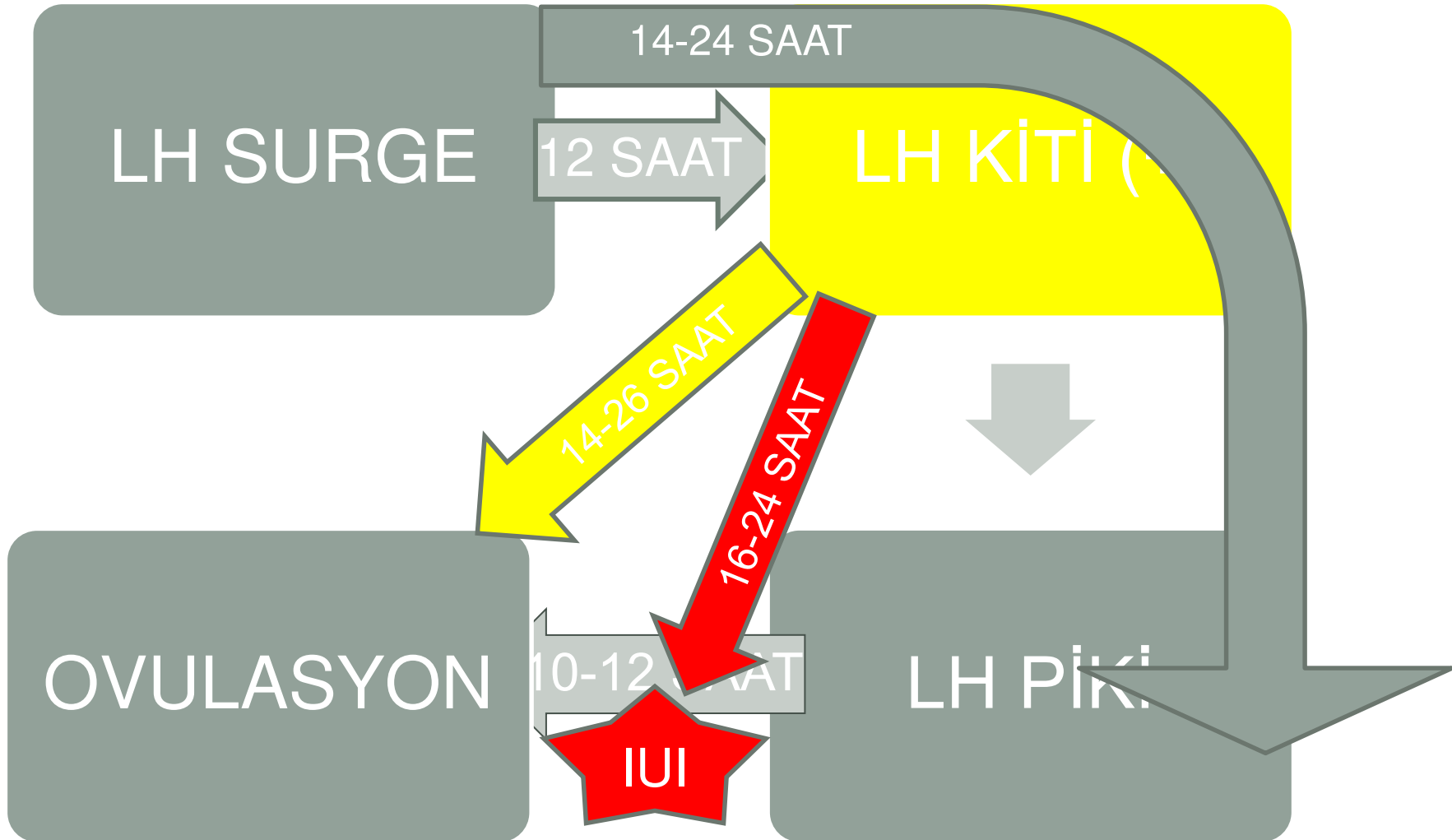
Reverse Kaplan-Meier curve showing the live birth rates and fecundity rates by cycle stratified by age.



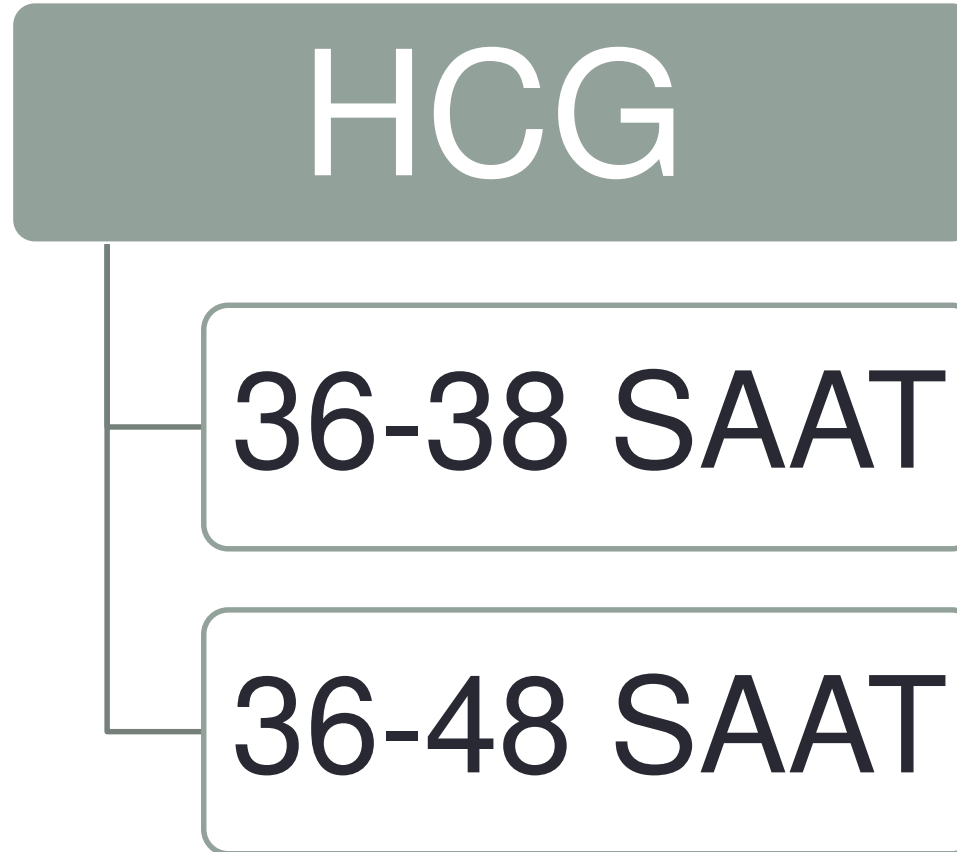
Harris. Poor birth rates with IUI after 40. Fertil Steril 2010.

NE ZAMAN?

DOĞAL SIKLUSLARDA IUI LH KİTİ TAKİBİ



STİMÜLE SIKLUSLARDA IUI HCG SONRASI OVULASYON



NE ZAMAN IUI?

Timing of intrauterine insemination: an attempt to unravel the enigma

Syed Monajatur Rahman · Debjyoti Karmakar ·
Neena Malhotra · Sunesh Kumar

- Grup I:HCG'den 36 saat sonra IUI
- Grup 2:HCG'den 24 saat sonra IUI

Table 3 Pregnancy rates and outcome in two groups

	Group I (n = 104/231) (patients/cycles)	Group II (n = 100/230) (patients/cycles)
Pregnancy rate (per cycle) (%)	(34/231) (14.71%)	(20/230) (8.69%)
Pregnancy rate (per patient) (%)	(34/104) (32.69%)	(20/100) (20.00%)
Miscarriage rate (%)	(3/34) (8.82%)	(2/20) (10%)
Live birth rate (%)	31/34 (91.18%)	18/20 (90%)
χ^2 test, p = 0.34		

NE ZAMAN IUI?

Synchronised approach for intrauterine insemination in subfertile couples.

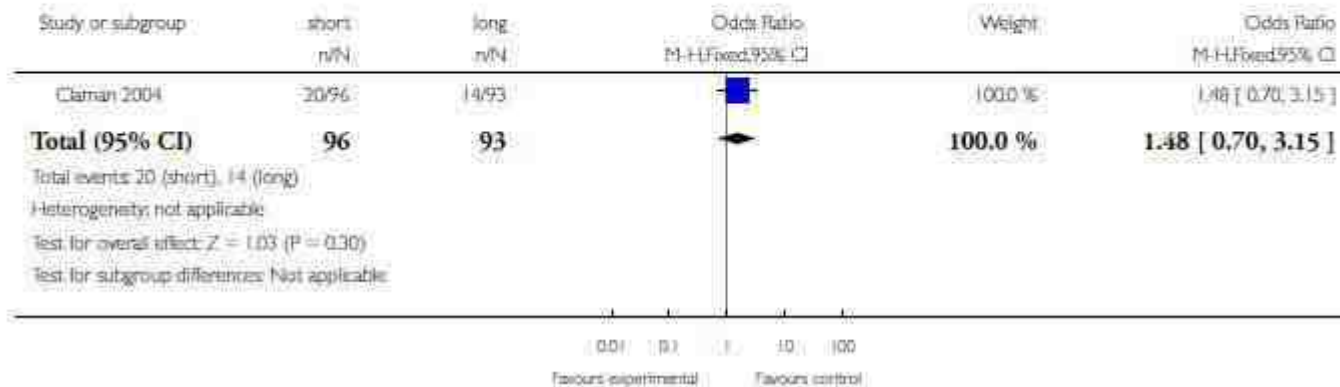
Astrid EP Cantineau², Mirjam J Janssen¹, Ben J Coblen³

Analysis 3.1. Comparison 3 short versus long interval, Outcome 1 pregnancy rate per cycle.

Review: Synchronised approach for intrauterine insemination in subfertile couples.

Comparison: 3 short versus long interval

Outcome: 1 pregnancy rate per cycle



TEK VEYA ÇİFT IUI?

Single versus double intrauterine insemination (IUI) in stimulated cycles for subfertile couples

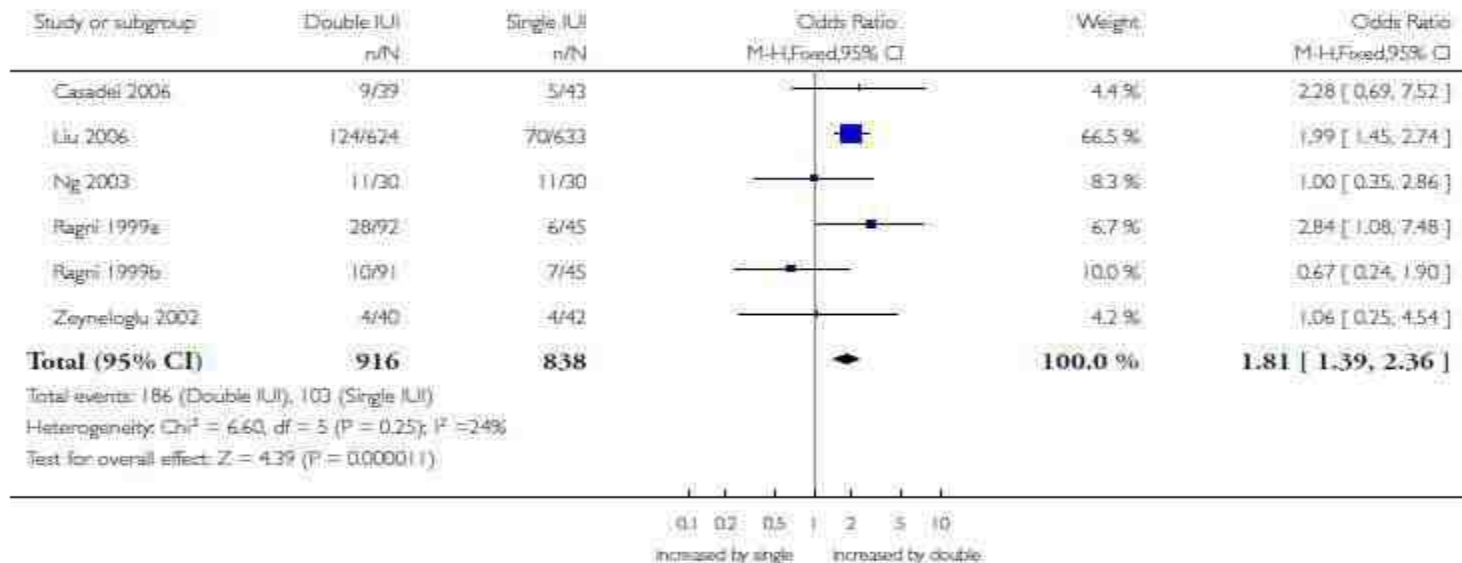
Astrid EP Cantineau¹, Maas Jan Heineman², Ben J Cohlen³

Analysis 1.1. Comparison 1 Single IUI versus double IUI in COH cycles, Outcome 1 Pregnancy rate per couple.

Review: Single versus double intrauterine insemination (IUI) in stimulated cycles for subfertile couples

Comparison: 1 Single IUI versus double IUI in COH cycles

Outcome: 1 Pregnancy rate per couple



TEK VEYA ÇİFT IUI?

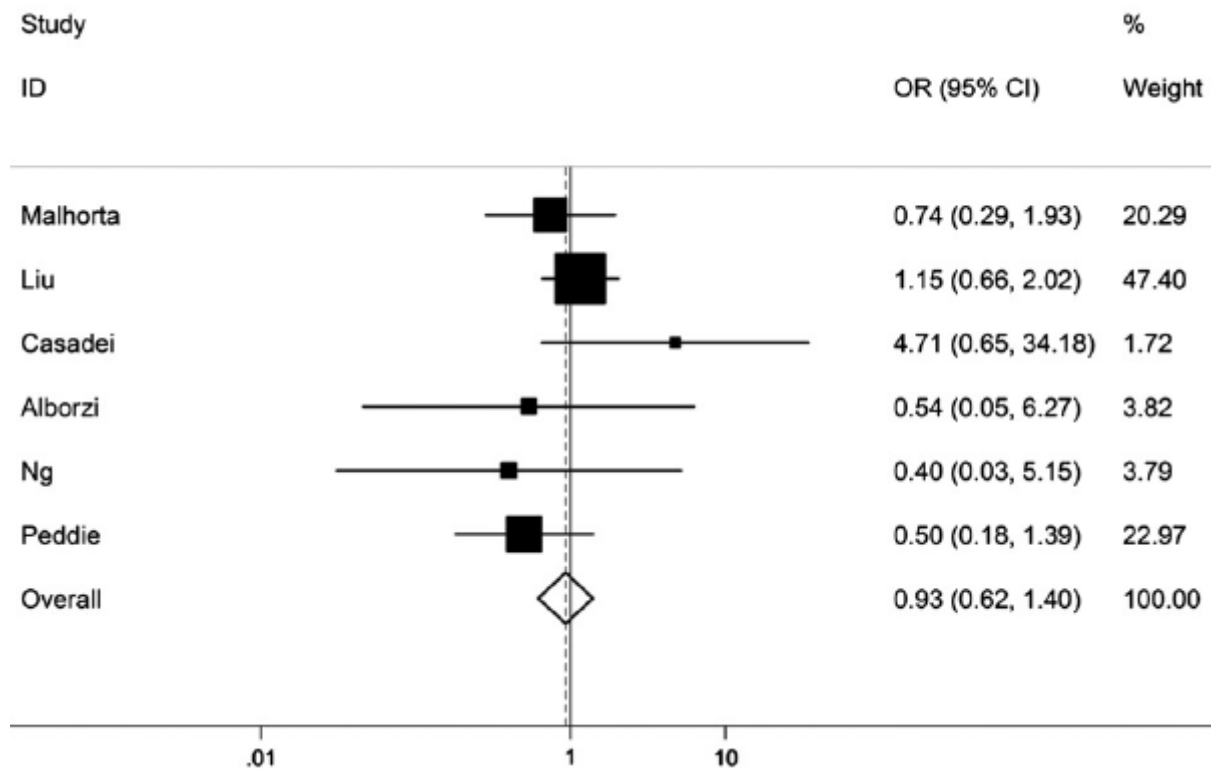
Comparing the pregnancy rates of one versus two intrauterine inseminations in male factor and idiopathic infertility

	One IUI	Two IUIs	p
Idiopathic infertility	10.53% (26/247)	11.93% (29/243)	0.6806
Male factor infertility	11.34% (44/386)	24.93% (95/381)	0.000106
Overall pregnancy	11.06% (70/633)	19.87% (124/624)	0.0027

TEK VEYA ÇİFT IUI?

Double versus single intrauterine insemination for unexplained infertility: a meta-analysis of randomized trials

Nikolaos P. Fertil Steril 2010;94:1261–6



KAÇ KERE?

KAÇ KEZ IUI?

Intrauterine insemination: how many cycles should we perform?†

Human Reproduction Vol.23, No.4 pp. 885-888, 2008

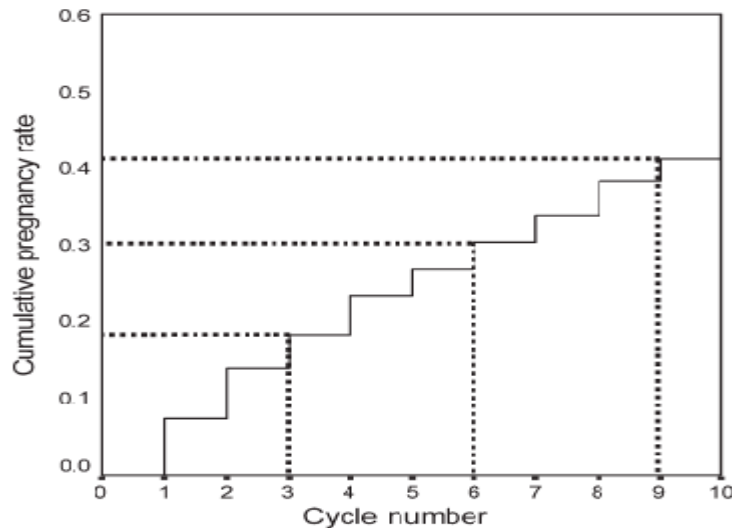


Figure 1: Cumulative OPRs from first to ninth IUI treatment cycle

- 3714 çift/15303 siklus
- %70 inde Oİ+IUI
- 3.cyc. COPR:%18
- 6.cyc. COPR:%30
- 9.cyc. COPR:%41
- Etkili faktör: Yaş

On the basis of this large retrospective cohort study, we feel that couples should have the possibility to continue IUI treatment after six failed attempts, especially when couples are young (female age below 35 years) and still have a considerable time ahead in which they are able to conceive.

KAÇ KEZ IUI?

Controlled ovarian hyperstimulation and intrauterine insemination for treatment of unexplained infertility should be limited to a maximum of three trials

*Mohamed Aboulghar, M.D., Ragaa Mansour, M.D., Gamal Serour, M.D.,
Ashraf Abdrazek, M.D., Yehia Amin, M.D., and Catharine Rhodes, M.R.C.O.G.*

	Patients (n)	Treatment	Pregnancy (n)	Overall cycle fecundity	Cumulative pregnancy rate
Group A	594	1-3 cycle COH+IUI	182	16.4%	%39.2
Group B	91	4-6 cycle COH+IUI	9	5.6%	%48.5
Group C	131	1 cycle IVF-ICSI	48	36.6%	

Açıklanamayan infertilite olgularında Oİ ve IUI tedavisi 3 siklusla sınırlandırılmalıdır.

KAÇ KEZ IUI?

	HASTA/SİKLUS	SONUÇ
Peterson, 1994	47/99	4 siklus Oİ+IUI CPR 1 siklus IVF'e eşit
Isaksson, 1997	70/233	Gebeliklerin %85'i ilk 4 siklуста
Morshedi, 2003	311/676	Gebeliklerin %88'i ilk 3 siklуста Gebeliklerin %95'i ilk 4 siklуста
Campana, 1996	332/1115	İlk 3 siklуста CPR %16 6 siklus sonunda CPR %26.9

KAÇ KEZ IUI?

- Malıyet
- Zaman
- Umut kaybı

- *Bireyselleştirilmiş tedavi*



SELCUKLU TIP

SELCUKLU TIP

SELCUKLU TIP