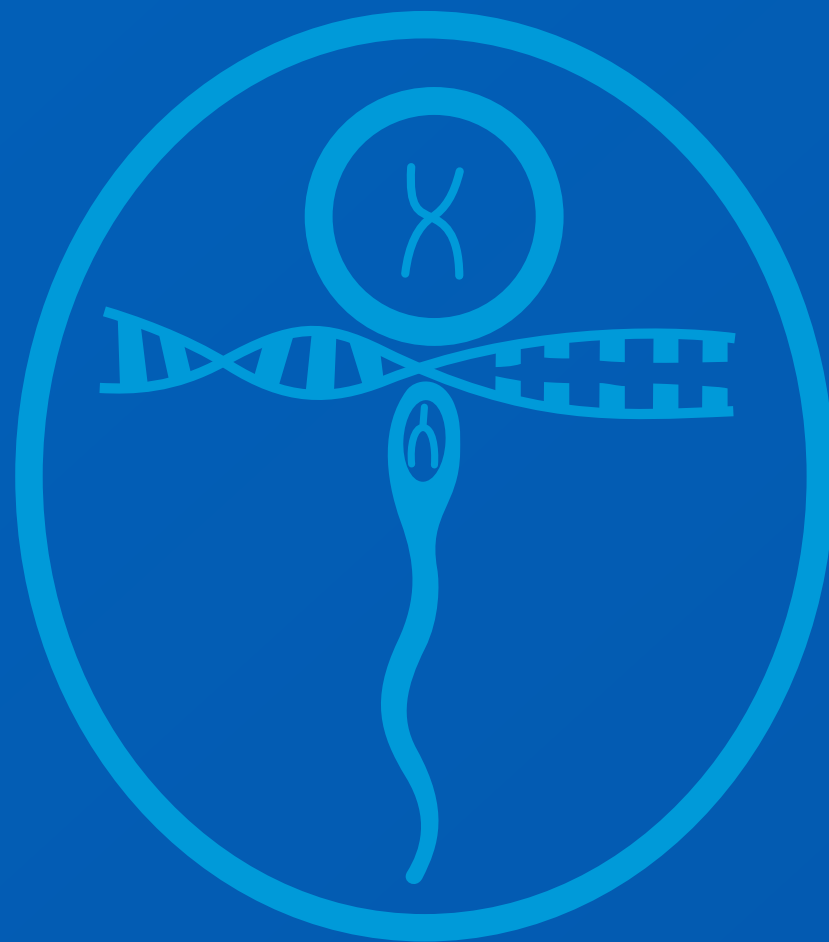


BT : prédictions vs résultats réels
Le grand écart ?

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SAMPIL
Jeu 13 avril 2023



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Infertility : 15% des couples (Eisenberg et al., 2013)

Facteur masculin dans 50% des cas (Tournaye et al., 2017; Pan et al., 2018)

Azoospermie :

- Don de sperme avant découverte ICSI (Palermo, Van Steirteghem et al., 1993)
- Grossesse possible depuis TESE, en particulier combiné à l'utilisation de sperme chirurgical (Krausz, 2011; Tournaye et al., 2017; Pan et al., 2018)
- 2 types d'azoospermie :
 - A Obstructive : 100% SRR (Ghanem et al., 2005)
 - A Non obstructive : 50% SRR ((Krausz, 2011; Tournaye et al., 2017; Pan et al., 2018) —> 63% SRR en micro TESE (Schlegel et al., 1999)



Facteurs prédictifs de succès de SRR - Sperm Retrieval Rate (meta analyse - Deruyver et al. 2014)

- 85 études screenées
- 7 études retenues

Facteurs prédictifs

- FSH < 7.6 mUI/L (Deruyver et al. 2014)
- Grand axe testiculaire > 4.6cm (Ghalayini et al., 2011)
- laboTestostérone, Prolactine : non prédictifs (Ghalayini et al., 2011)

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Sperm recovery and ICSI outcomes in men with non-obstructive azoospermia: a systematic review and meta-analysis

Corona et al., 2019

1236 études screenés

117 études retenues - 1 RCT (Colpi et al., 2009)

21404 patients

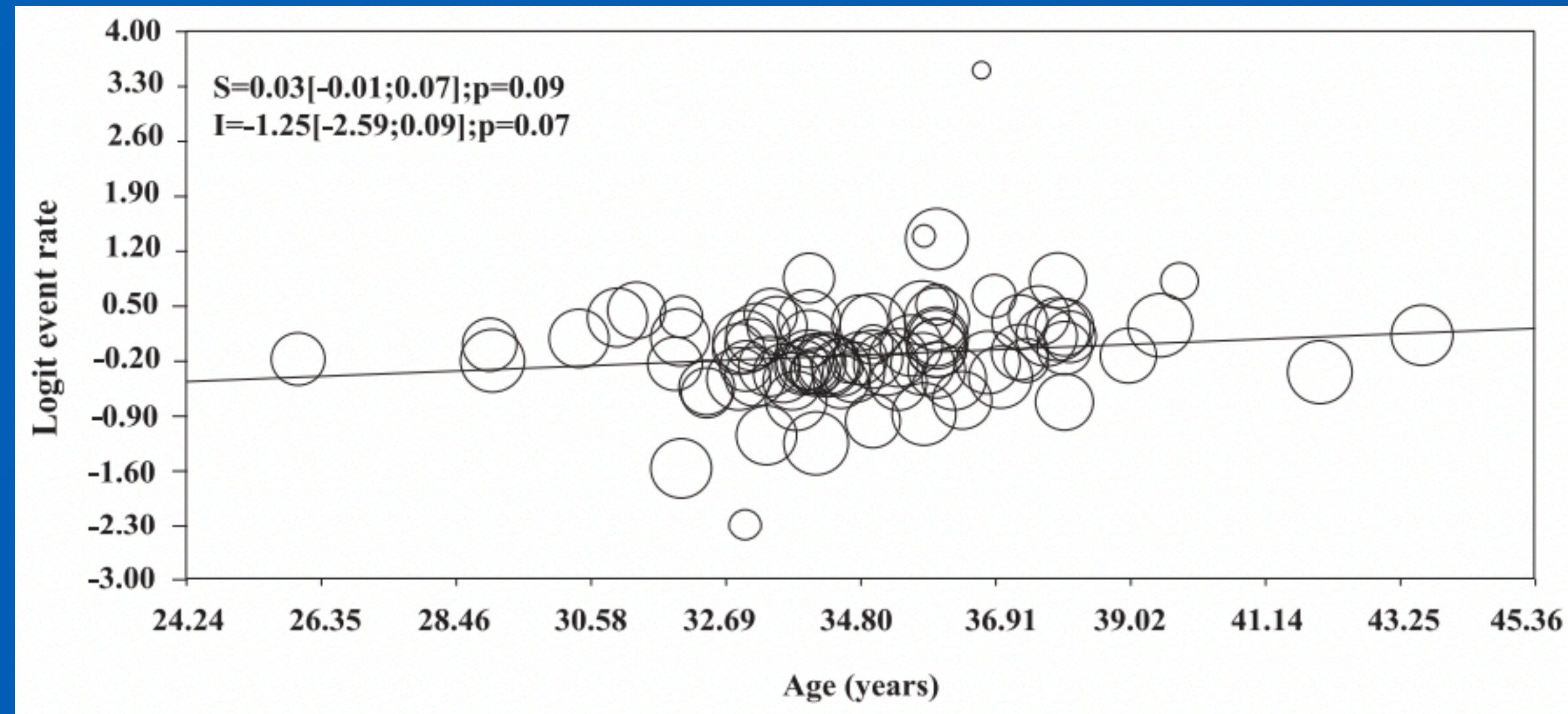
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Corona et al., 2019

Age



Ethnie

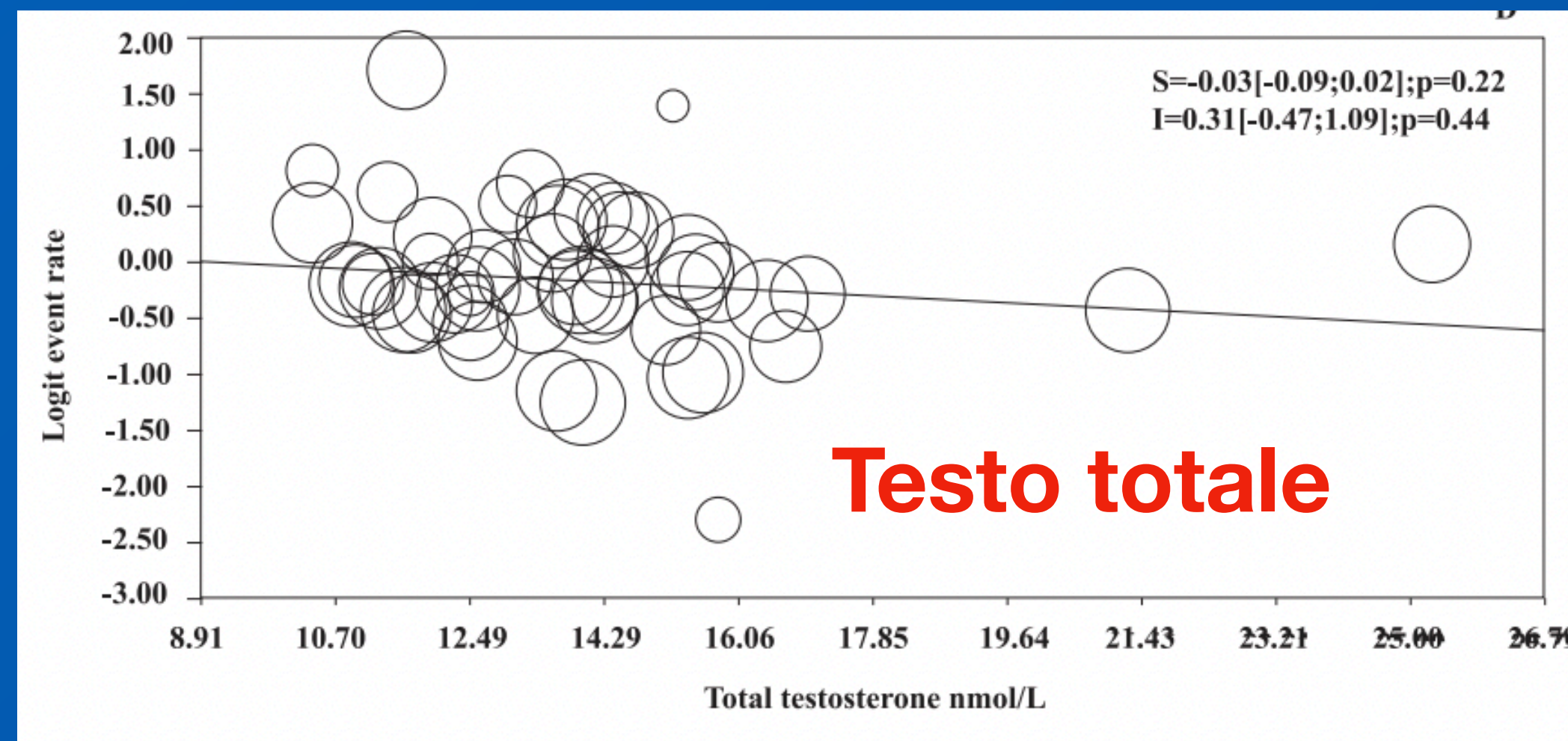
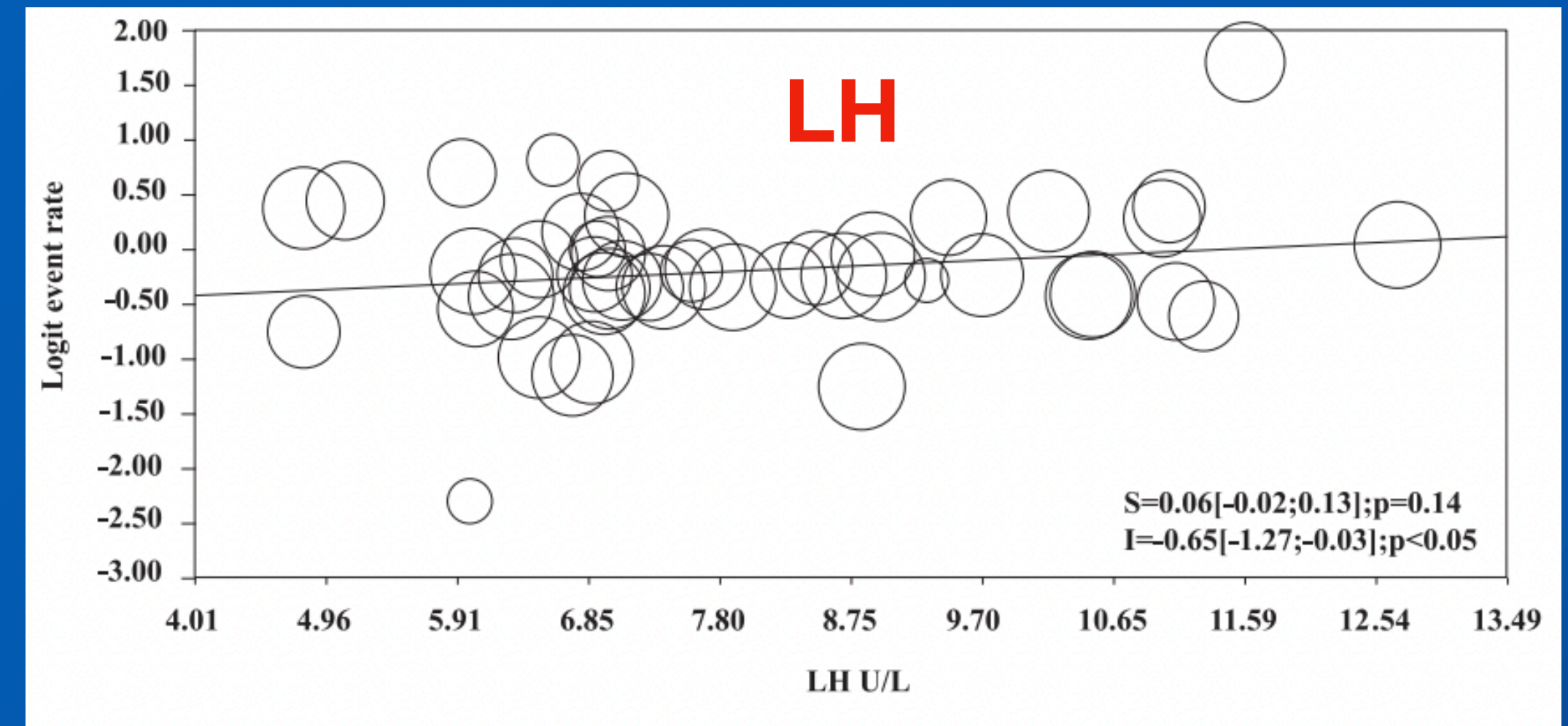
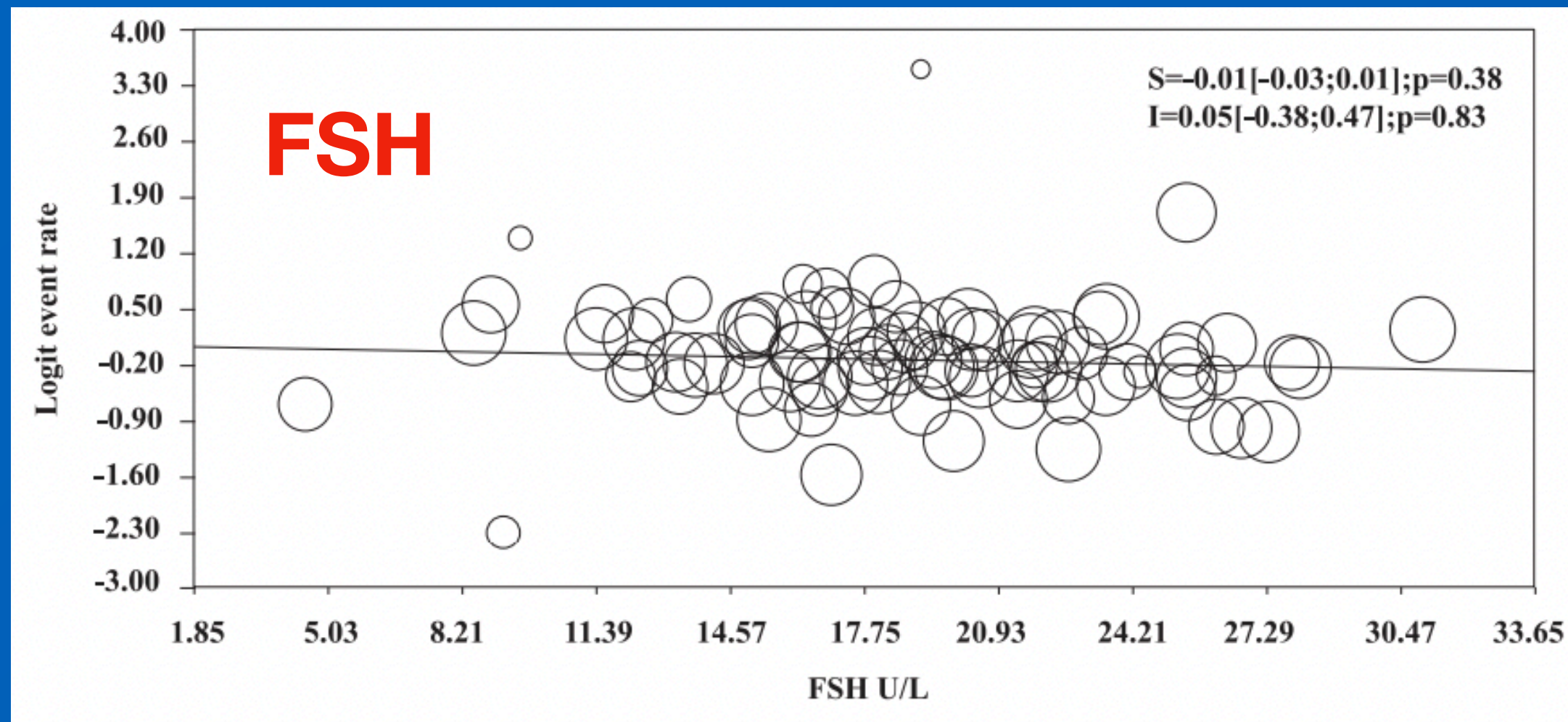
Meilleurs résultats
Amérique du Nord & Europe > Asie de l'est & péninsule arabique

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Sperm recovery and ICSI outcomes in men with non-obstructive azoospermia: a systematic review and meta-analysis

Corona et al., 2019

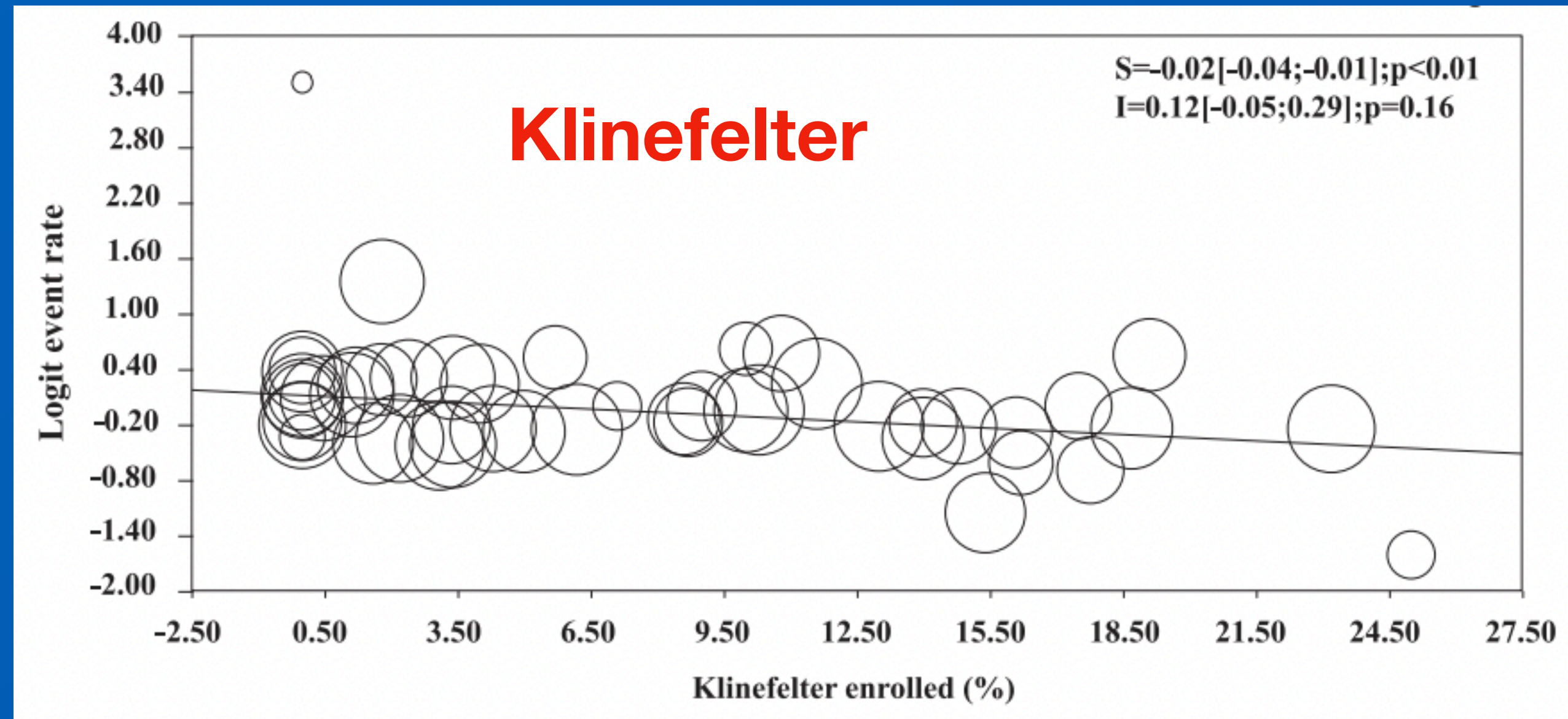


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Sperm recovery and ICSI outcomes in men with non-obstructive azoospermia: a systematic review and meta-analysis

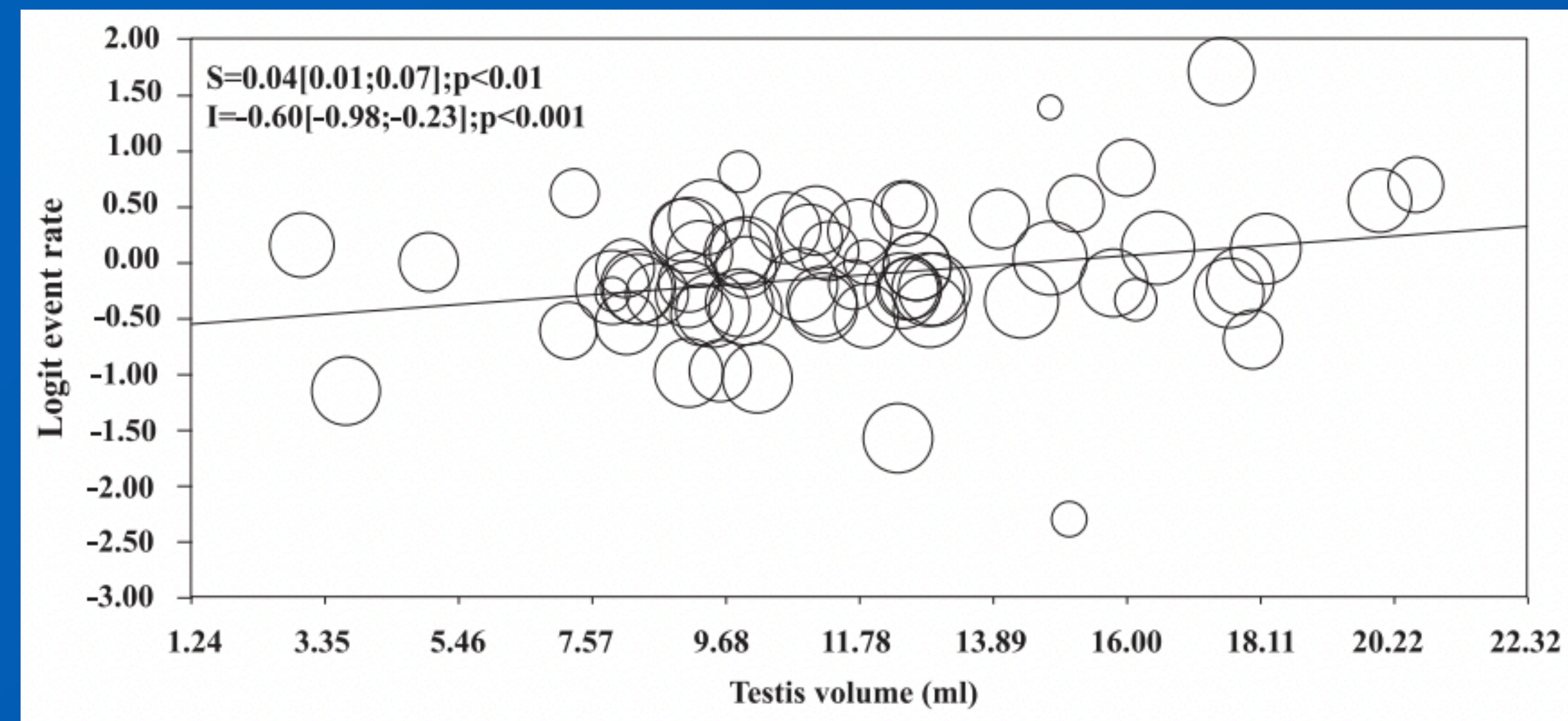
Corona et al., 2019



Sperm recovery and ICSI outcomes in men with non-obstructive azoospermia: a systematic review and meta-analysis

Corona et al., 2019

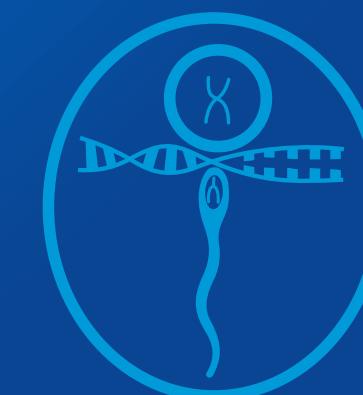
**Volume
testiculaire**



Si > 12mL → SRR = 60%

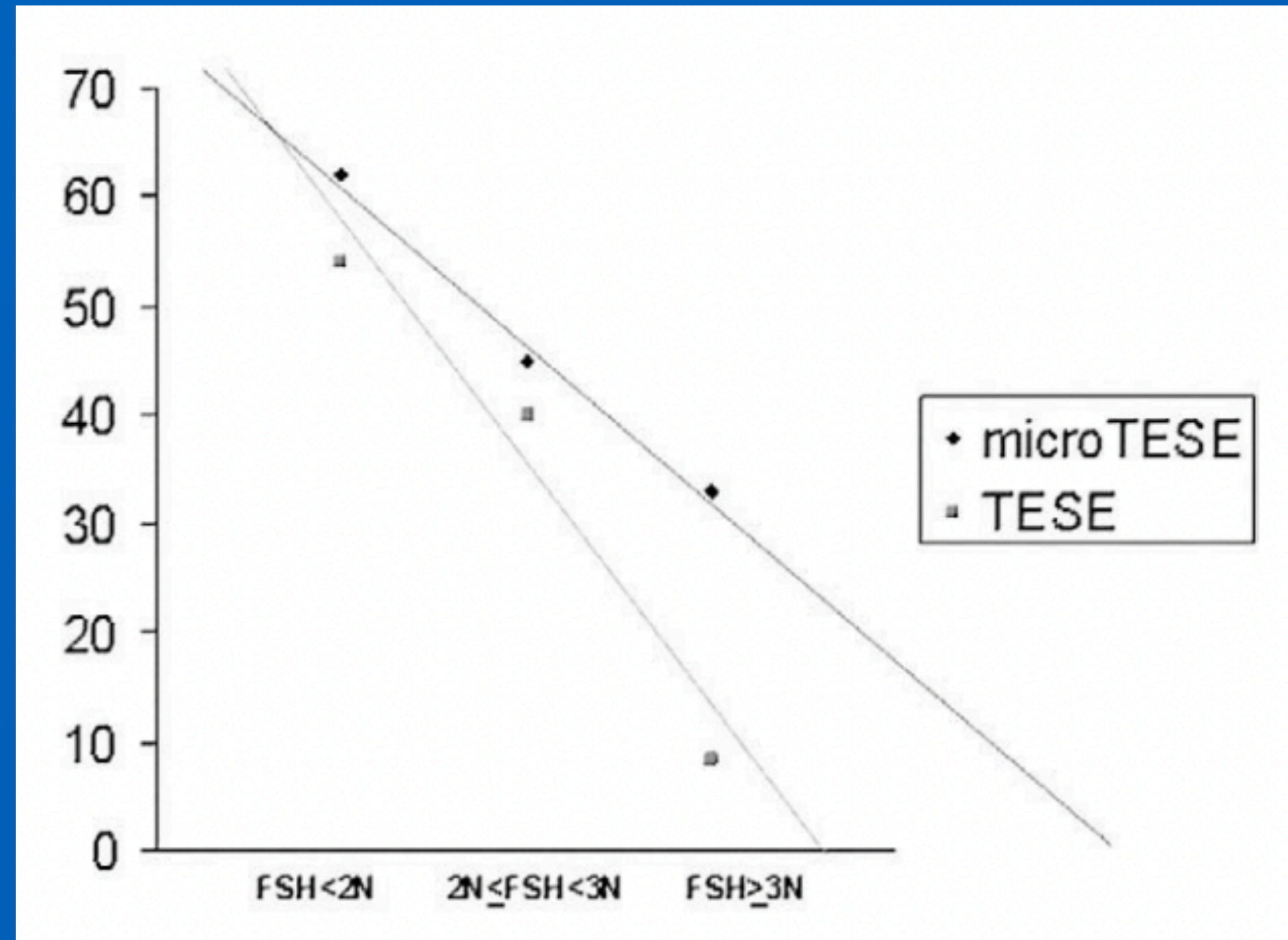
Si < 8mL → SRR ≠ 0%

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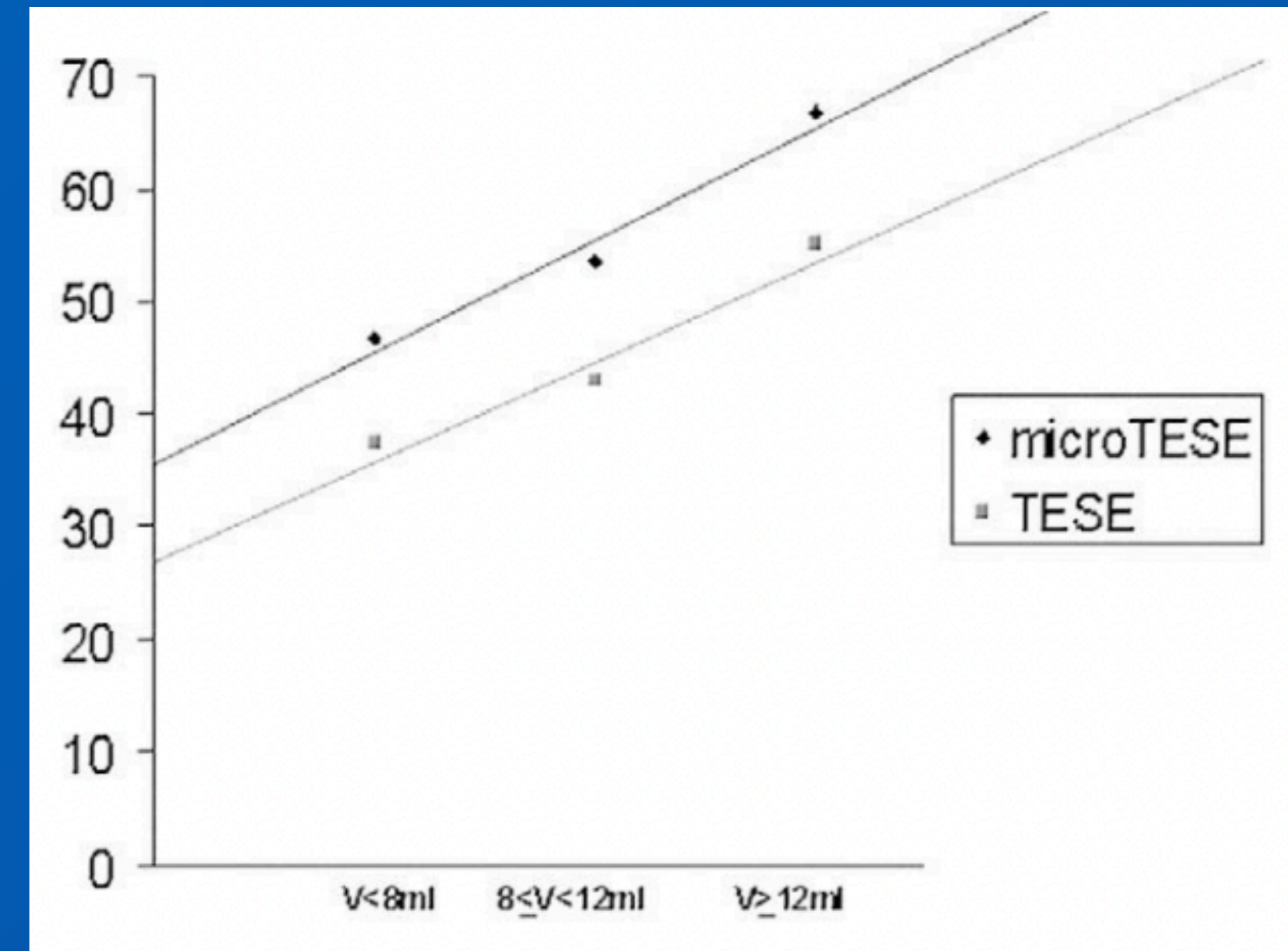


Microsurgical TESE versus conventional TESE for ICSI in non-obstructive azoospermia : a RCT (Colpi et al, 2009)

SRR

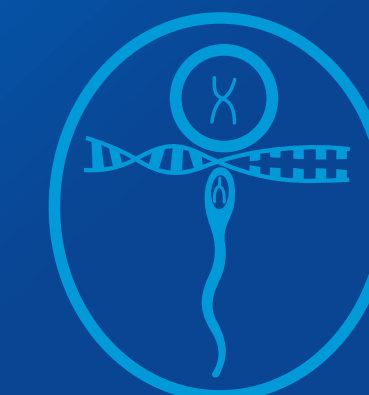


FSH



Volume
testiculaire

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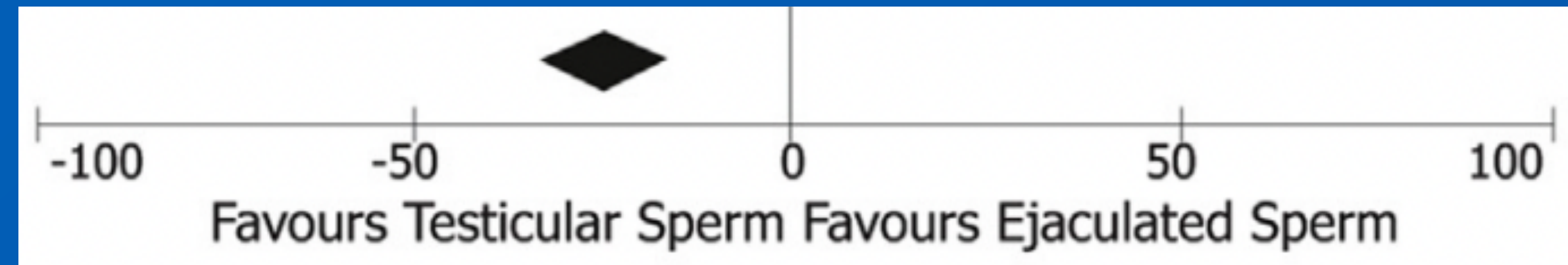


Place de la biopsie chez les patients non azoospermiques

Meta analyse - Esteves et al., 2017

5 études
143 patients

Fragmentation ADN spermatique

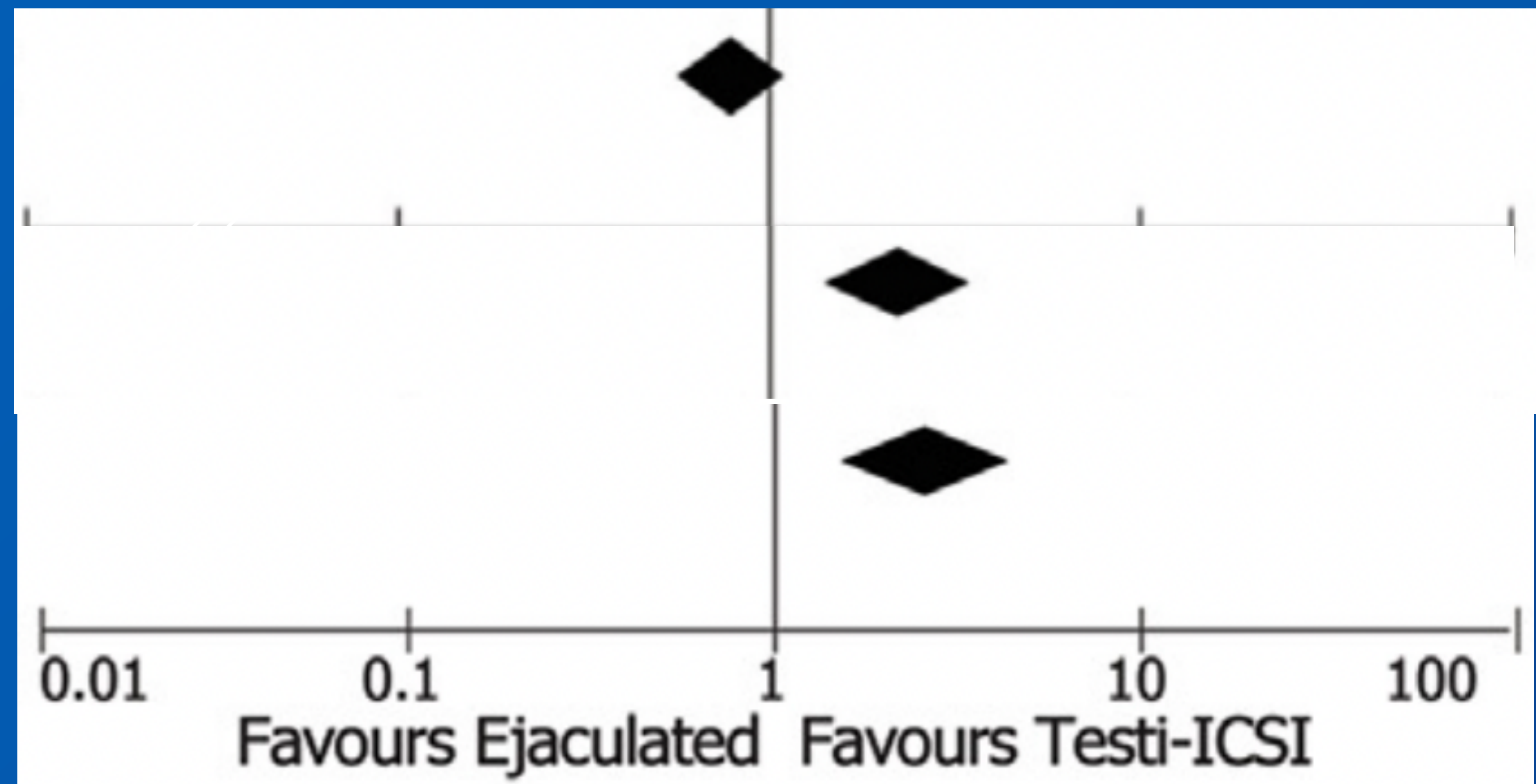


Taux de fécondation

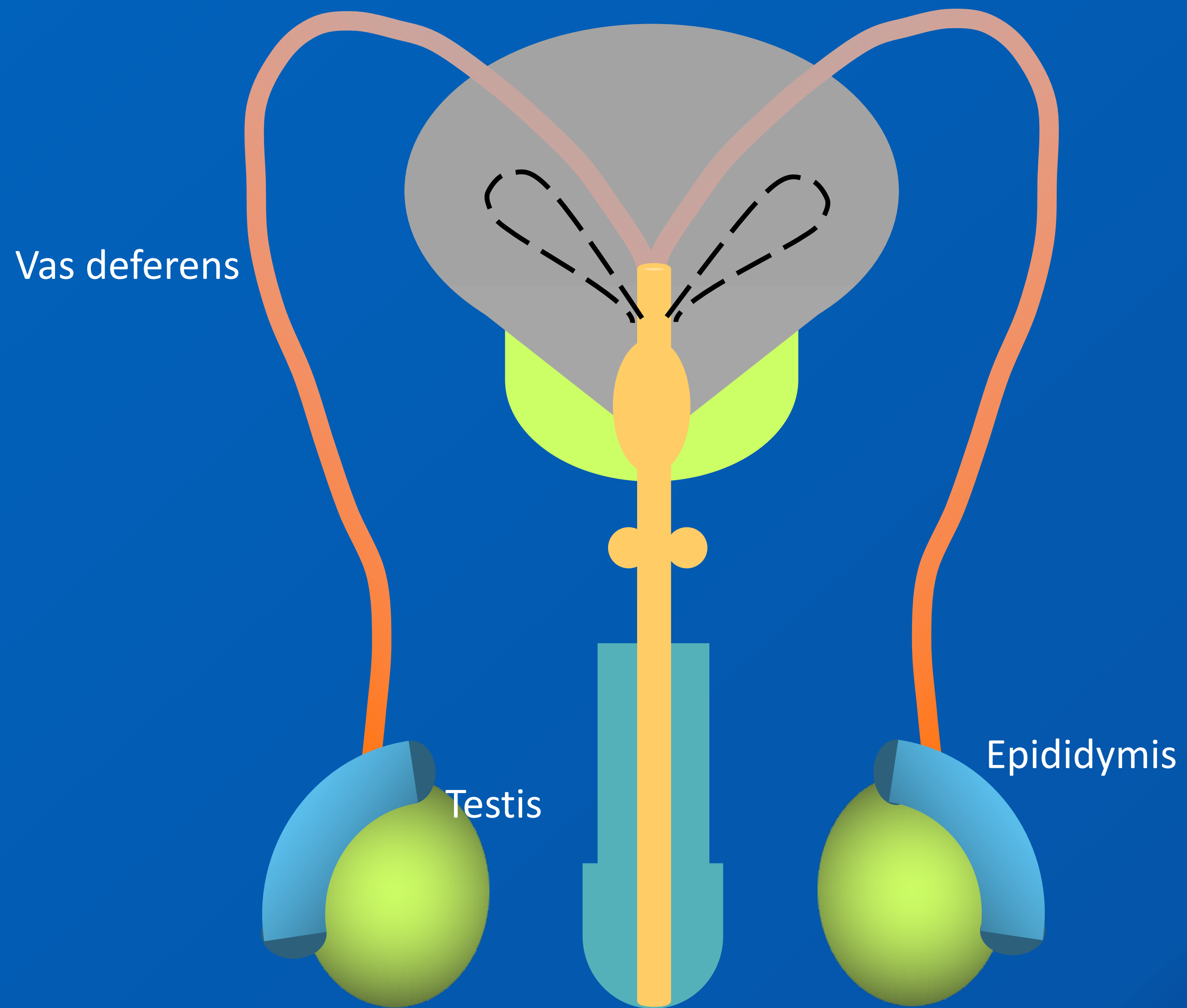
Taux de grossesse

Taux de naissances vivantes

4 études
507 cycles
3840 ovocytes



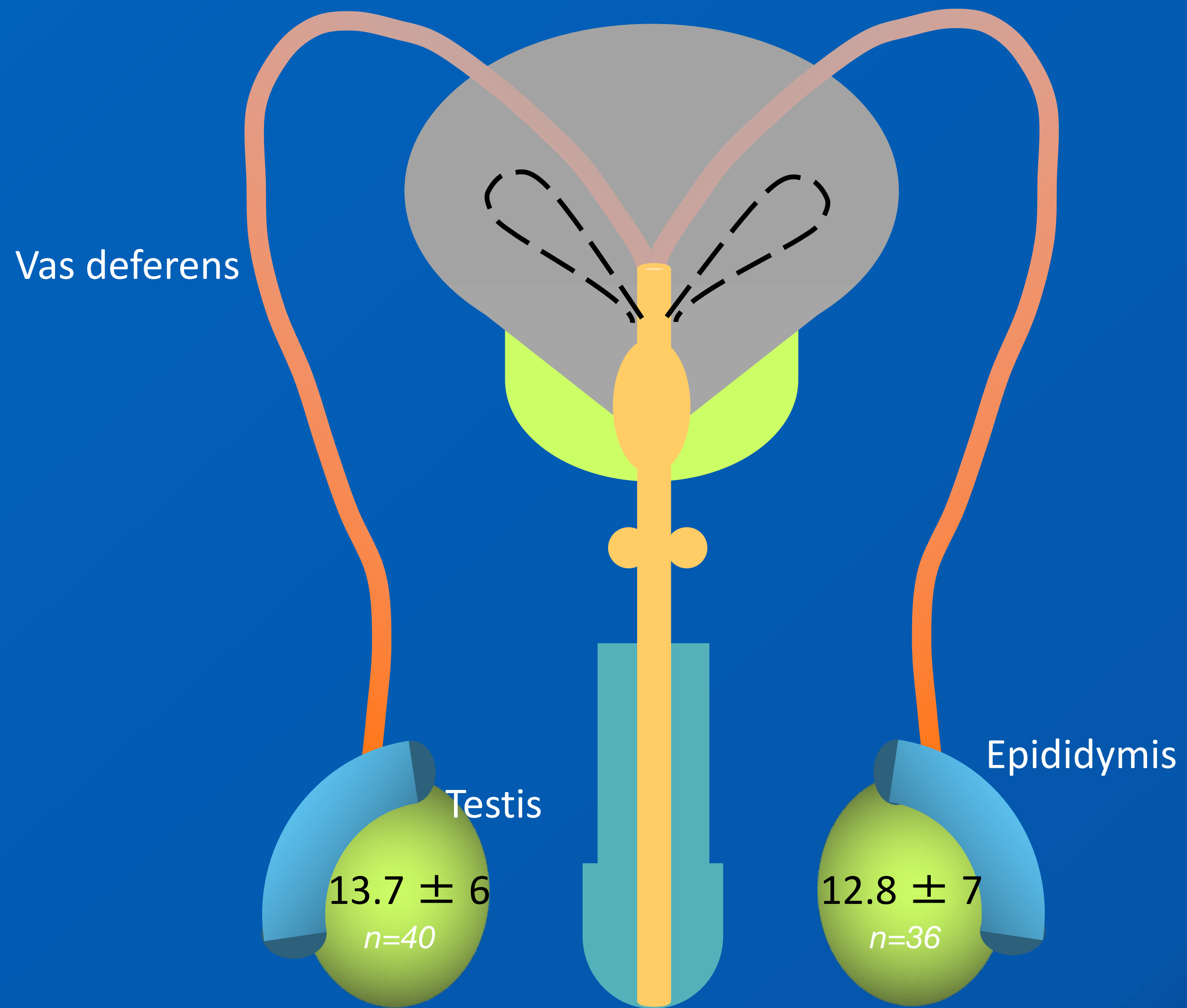
—> Bénéfice de la biopsie testiculaire : +++ si fragmentation ADN spermatique augmenté



*Courtesy of
Dr. G Palermo
Dr. Z Rosenwaks
Dr. P Schlegel
and Cornell IVF center
(personal data)*

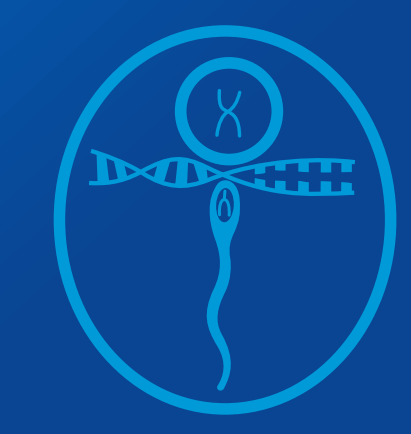
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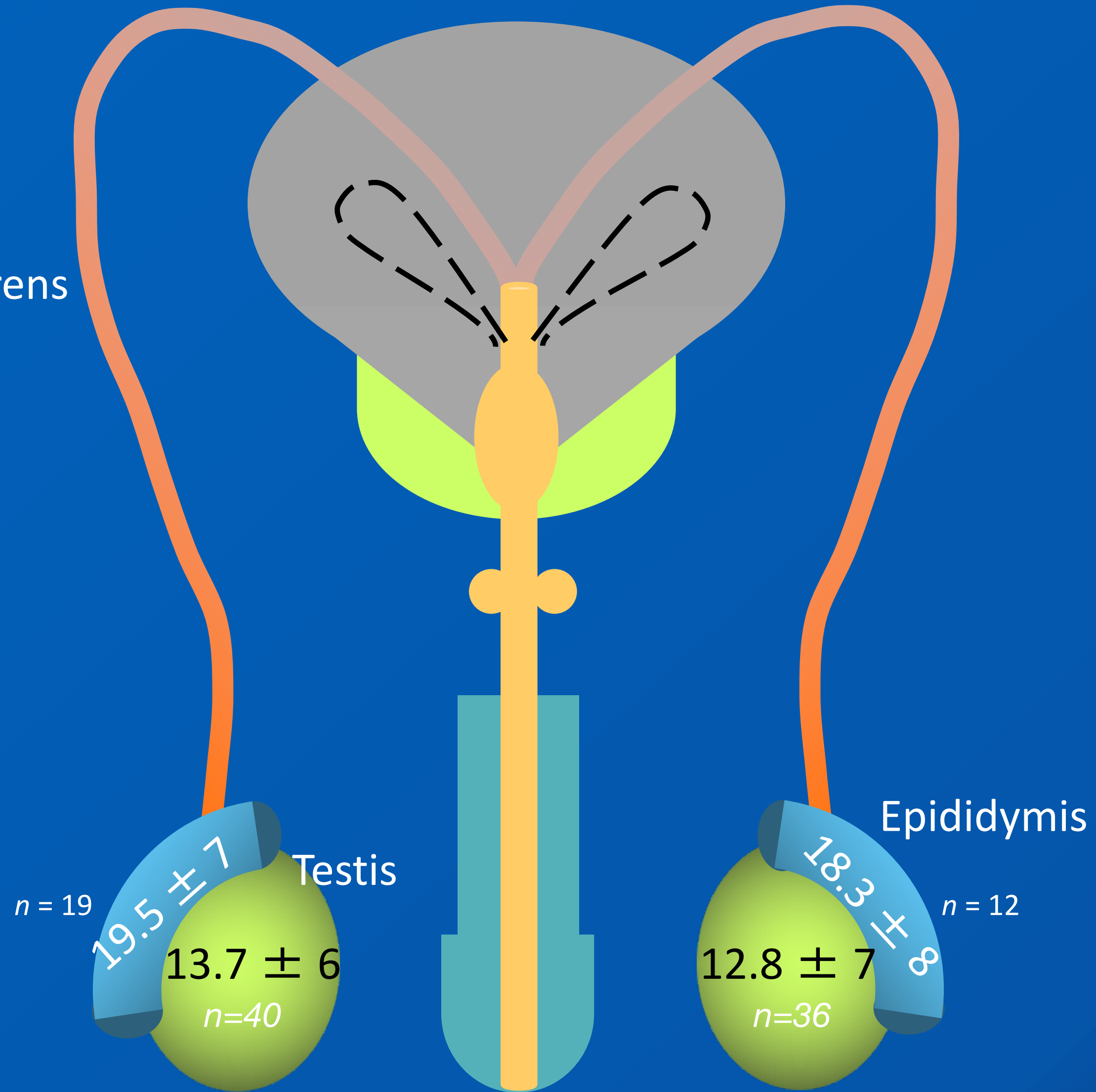


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Vas deferens



Courtesy of
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(personal data)

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Vas deferens
 16.5 ± 24
 $n = 5$

23.5 ± 7
 $n = 6$

19.5 ± 7
 $n = 19$
Testis
 13.7 ± 6
 $n = 40$

Epididymis
 18.3 ± 8
 $n = 12$
 12.8 ± 7
 $n = 36$

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Vas deferens
 16.5 ± 24
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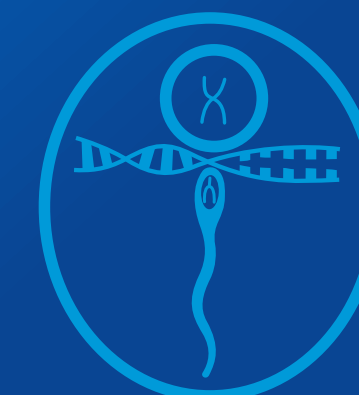
$n = 19$
 19.5 ± 7
Testis
 13.7 ± 6
 $n = 40$

Ejac
 $n = 51$
 40.6 ± 25 SCSA
 32.0 ± 21 TUNEL

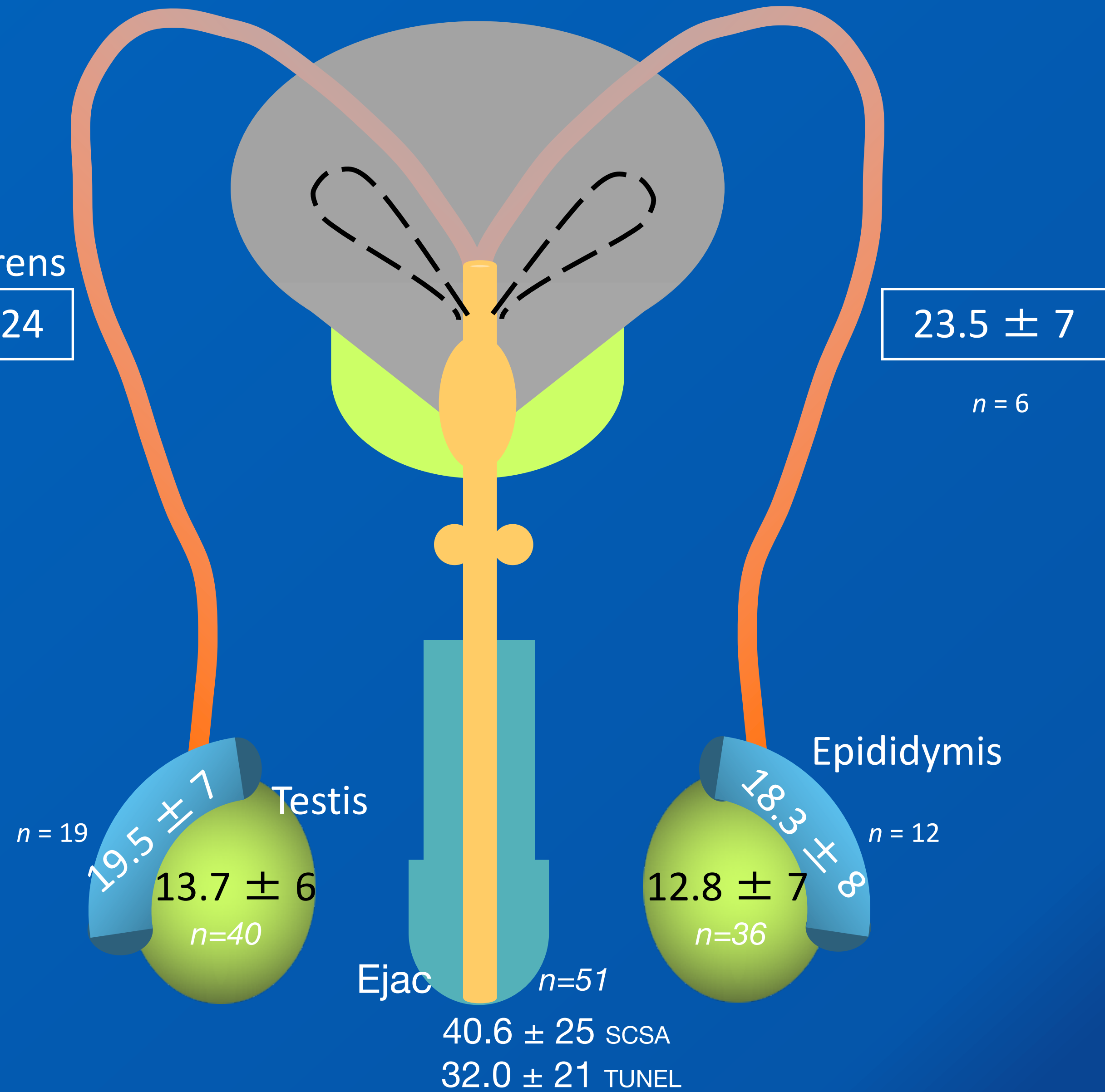
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 18.3 ± 8
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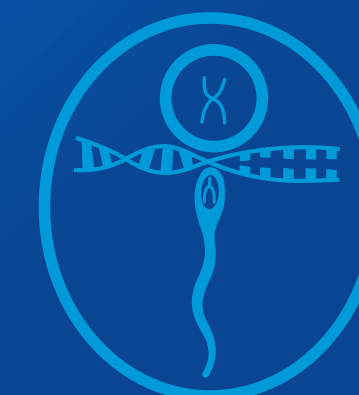


Sperm DNA damages =
oxidative stress-mediated
during sperm
transit through the epididymis



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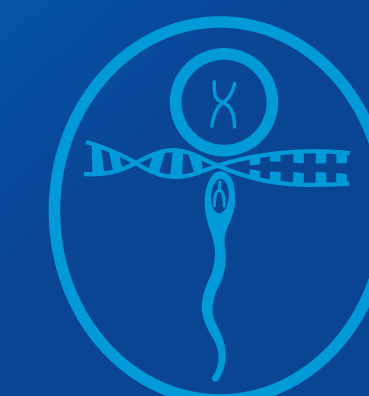
ICSI outcomes according to retrieval site

Parameter	Ejaculated	Epididymal	Testicular
Maternal age (m ± SD) (years)	37.7 ± 5 ^a	35.3 ± 5 ^b	33.8 ± 6 ^c
Cycles	31,723	1,140	1,713
Oocytes retrieved (m ± SD)	10.3 ± 6 ^d	12.0 ± 7 ^e	12.5 ± 7 ^f
Oocytes injected (m ± SD)	8.3 ± 5 ^g	9.6 ± 5 ^h	10.1 ± 5 ⁱ
Oocytes fertilized (m ± SD)	6.3 ± 4 ^j	6.9 ± 5 ^k	5.2 ± 4 ^l
Clinical pregnancy rate per cycle (%)	11,536 (36.4) ^m	576 (53.2) ⁿ	687 (40.1) ^o

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Epididymal > Testicular > Ejaculated

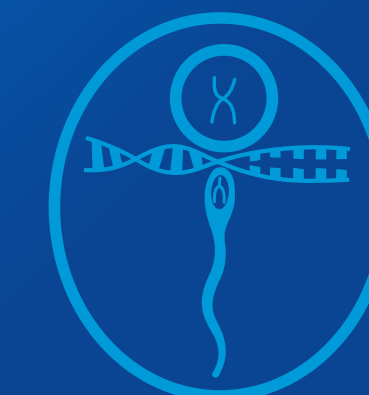
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ICSI outcomes in synchronous vs asynchronous surgery

No. of items	Spermatozoa			
	Epididymal		Testicular	
	Fresh	Frozen/thawed	Fresh	Frozen/thawed
Cycles	364	776	1,158	555
Density (10 ⁶ per mL ± SD)	37.9 ± 44	21.1 ± 26	0.3 ± 2.6	0.3 ± 1.8
Motility (% ± SD)	19.0 ± 17 ^a	3.9 ± 9 ^a	2.9 ± 7	1.4 ± 5
Morphology (% ± SD)	1.7 ± 2	1.3 ± 2	0	0
Fertilization (%)	2,775/3,829 (72.5)	5,072/7,126 (71.1)	6,418/12,220 (52.5) ^c	2,477/5,059 (49.0) ^c
Clinical pregnancy (%)	221 (60.7) ^b	353 (45.5) ^b	500 (43.2) ^d	187 (33.7) ^d

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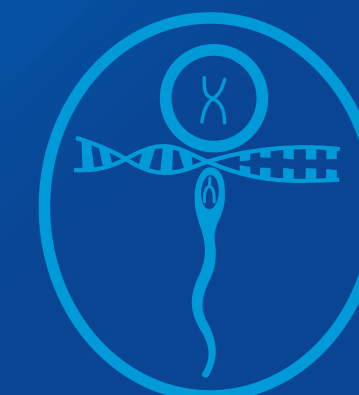


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Fresh > Frozen

Le facteur masculin le plus important ?

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Le facteur masculin le plus important ?

LE FACTEUR FÉMININ

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Le facteur masculin le plus important ?

LE FACTEUR FÉMININ

Ovocytes : Activité de réparation de l'ADN

- Au stade pronuclei
- Réparation possible des low levels breaks
- Capacité de réparation diminue avec l'âge féminin

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Bilan pré-biopsie testiculaire

Clinique

Volume testiculaire
Recherche une varicocèle
BMI
Age

Biologie

Fragmentation

FSH
LH
Inhibine B
Testostérone
Prolactine

Caryotype
Microdélétion chromosome Y
Recherche de mutation CFTR

Imagerie

Echo Doppler testiculaire

Anapath ...

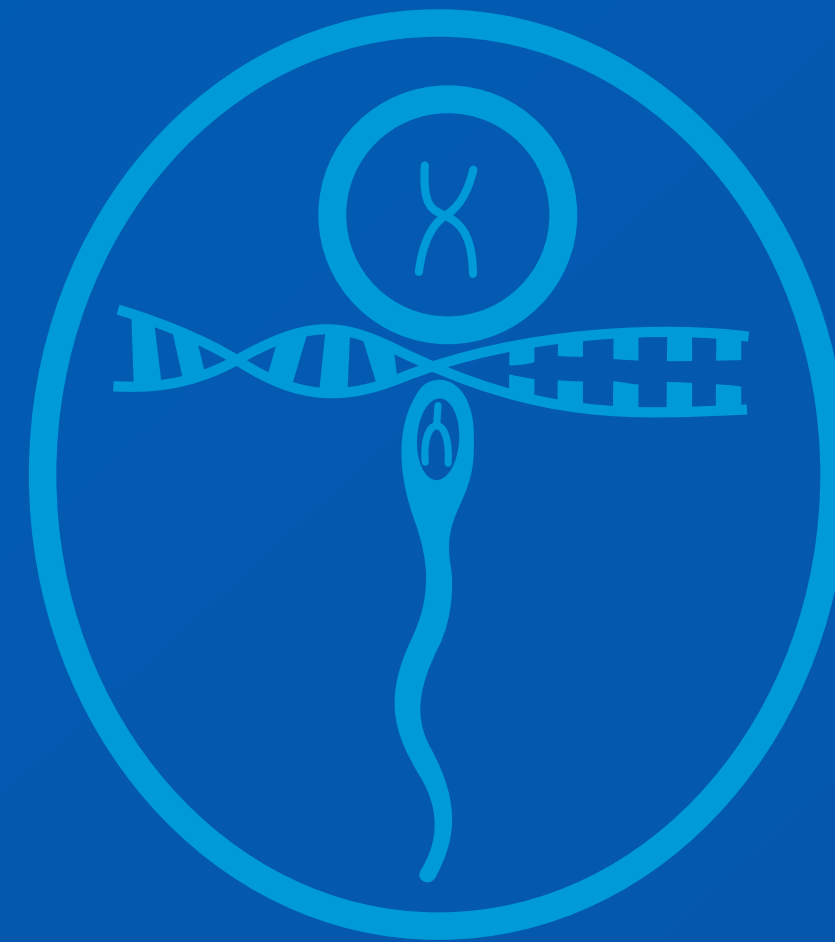
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