



Intra-uterine insemination
for male subfertility

*The right sperm at the right place
at the right time*

BJ Cohlen
 Isala Kliniek



Intra-uterine insemination
for male subfertility

Appraisal of evidence





Appraisal of Evidence



The victims



Nicole Simpson



Ronald Goldman

Collecting the evidence

Blood evidence:

- (1) killer dropped blood near shoe prints at Bundy,
- (2) blood dropped at Bundy was of same type as Simpson's
- (3) Simpson had fresh cuts on left hand on day after murder,
- (4) blood found in Bronco,
- (5) blood found in foyer and master bedroom of Simpson home,
- (6) blood found on Simpson's driveway.



Collecting the evidence

Glove evidence:

- (1) left glove found at Bundy and right glove found at Simpson residence are Aris Light gloves, size XL,
- (2) Nicole Brown bought pair of Aris Light XL gloves in 1990 at Bloomingdale's,
- (3) Simpson wore Aris Light gloves from 1990 to June, 1994.

Collecting the evidence

Shoe evidence:
(1) shoe prints found at Bundy: a size 12 Bruno Magli shoe,
(2) bloody shoe impression on Bronco carpet: a Magli shoe,
(3) Simpson wore a size 12 shoe.



APPRAISAL OF EVIDENCE

GUILTY or NOT GUILTY?

or

When is evidence convincing?



Glove evidence?





Blood evidence ?

Mr Simpson cut himself on a glass when he was told his ex-wife was murdered

The wound re-opened when he got into the Bronco car





APPRAISAL OF EVIDENCE

GUILTY or NOT GUILTY?

or

When is evidence convincing?





Best available evidence



Evidence no. 1

Lancet. 1984 Mar 10;1(8376):533-5.
Improved conception rate after intrauterine insemination of washed spermatozoa from men with poor quality semen. Kerin et al.

35 couples with male subfertility
 RCT
 38 cycles TI 0 pregnancies
 39 cycles IUI 8 pregnancies



Evidence no. 2

Fertil Steril. 1989 Apr;51(4):682-4.
Intrauterine insemination is not useful in oligoasthenospermia. Ho et al.

47 couples with male subfertility
 RCT
 124 cycles TI 1 pregnancy
 114 cycles IUI 0 pregnancies






Strength of evidence

- Systematic reviews 1a
- Meta-analyses 1a
- RCTs 1b

Well designed non randomized controlled trial 2a

Well designed quasi experimental 2b

Descriptive/cases 3 Experts 4



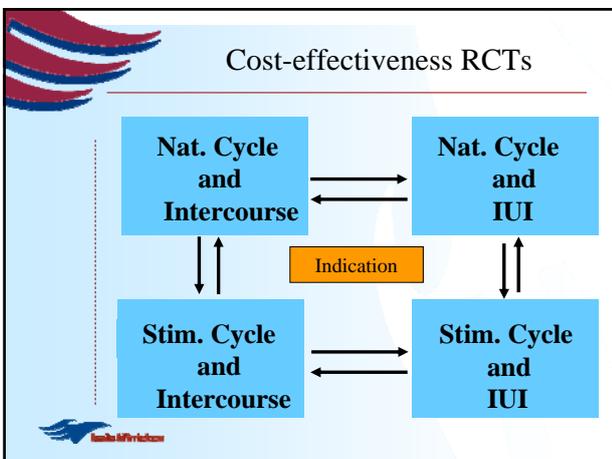
Appraising evidence

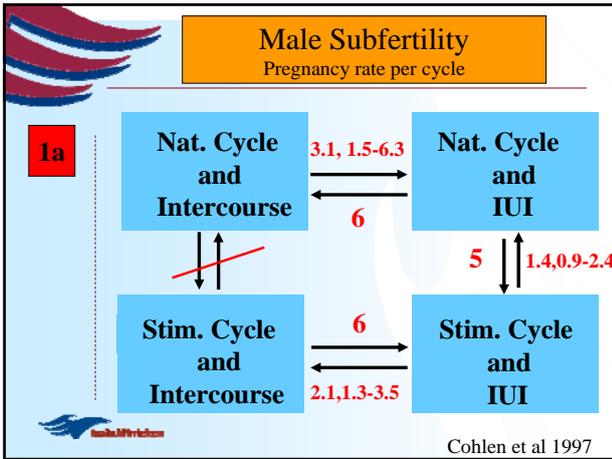
1b

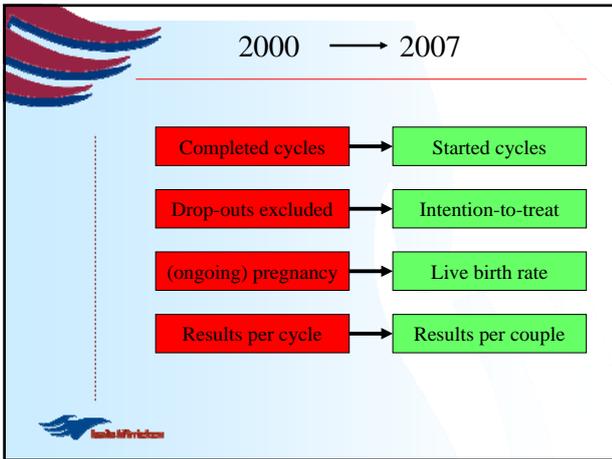
- Kerin et al. 1984
- Ho et al. 1989

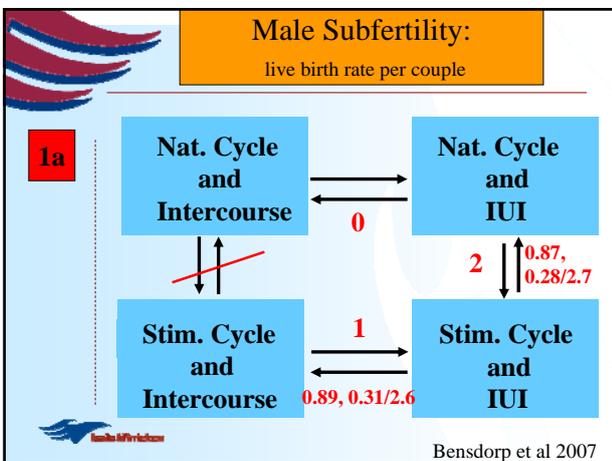
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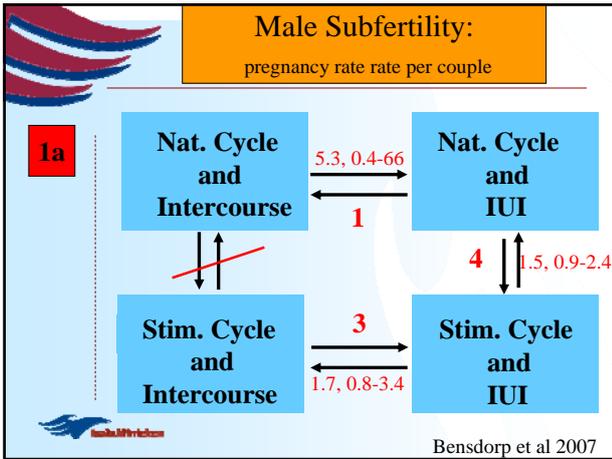


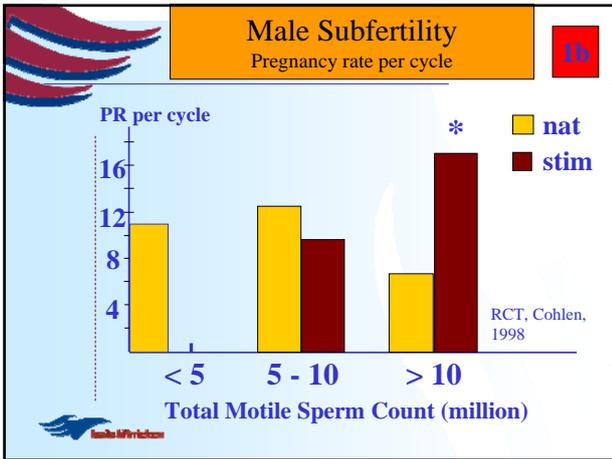


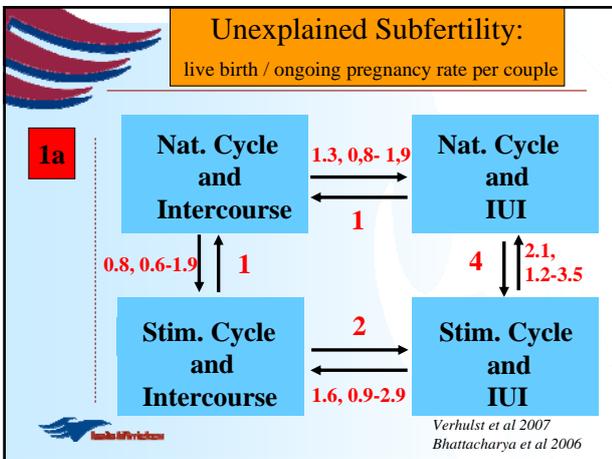


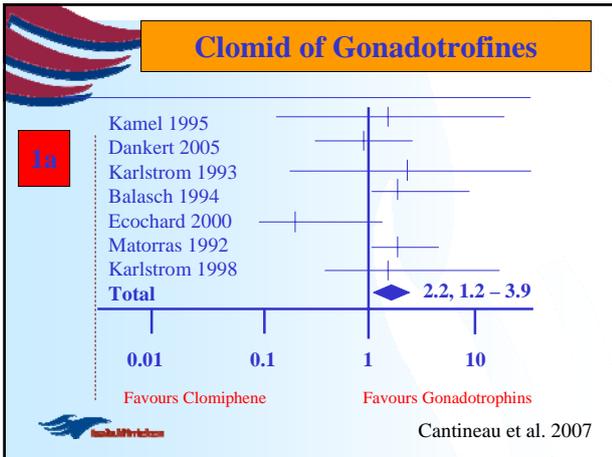










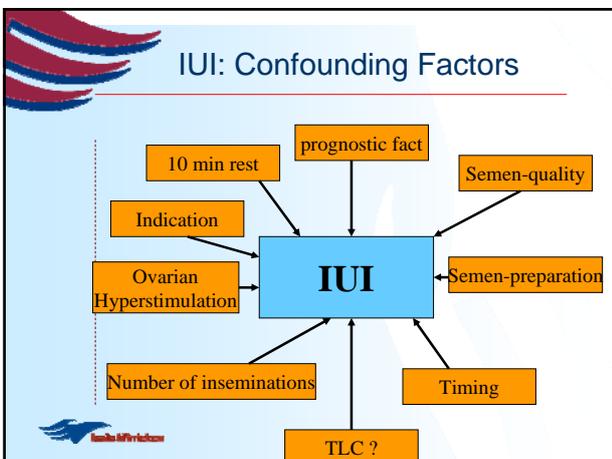


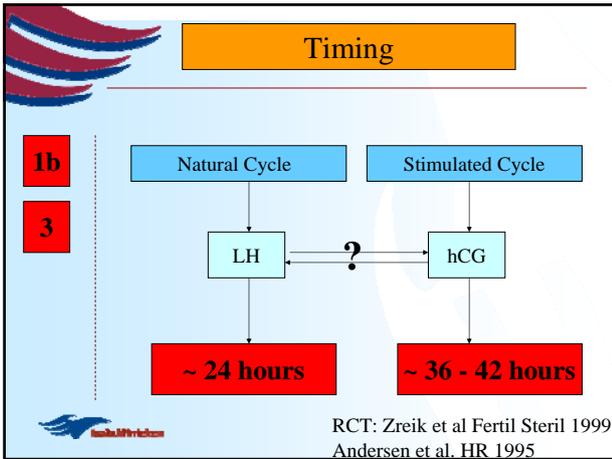
Prevention of Multiples

1b

Randomized trials

Author	Year	Stim.	PR/Cy	MPR
Ragni	2004	50 IU ant.	34.4	0
Balasz	1994	75 IU/2d	13.0	0
Cohlen	1998	75 IU SU	13.7	9.5
Gregoriou	1995	75 IU SU	25.7	9.1
Guzick	1999	150 IU fix	9.0	25





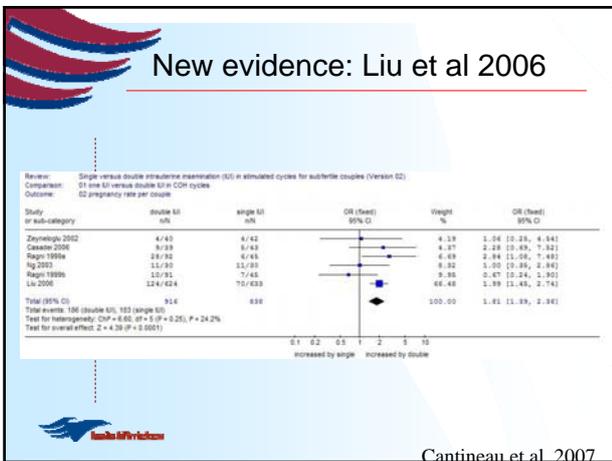
Number of inseminations per cycle

Hum Reprod. 2003 May;18(5):941-6.

1a

Single versus double intrauterine insemination in stimulated cycles for subfertile couples: a systematic review based on a Cochrane review.
Cantineau AE, Heineman MJ, Cohlen BJ.

RESULTS: Three studies involving 386 women were included. The results of pregnancy rate per couple, of two studies showed **no significant effect of using double insemination [Peto odds ratio (OR) 1.45; 95% confidence interval (CI) 0.78-2.70].** **CONCLUSIONS:** Based on the results of two trials, double intrauterine insemination showed no significant benefit over single IUI in the treatment of subfertile couples with partner semen. More trials are mandatory



Semen quality and preparation

Fertil Steril. 2004 Sep;82(3):612-20.
Performance of the postwash total motile sperm count as a predictor of pregnancy at the time of intrauterine insemination: a meta-analysis.

1a

van Weert JM, et al.
 RESULT(S): We detected 16 studies that reported on postwash TMC at insemination and IUI outcome. Summary receiver operating characteristics (ROC) curves indicated a reasonable predictive performance toward IUI outcome, and, at cut-off levels between 0.8 to 5 million motile spermatozoa, the postwash TMC provided a substantial discriminative performance. At these cut-off levels, the specificity of the postwash TMC, defined as the ability to predict failure to become pregnant, was as high as 100%; the sensitivity of the test, defined as the ability to predict pregnancy, was limited.

Semen quality and preparation

Cochrane Database Syst Rev. 2007;(4):CD004507

1a

88 trials

↓

5 included

↓

Swim-up = gradient = wash;
 MORE trials needed!

Boomsma CM, Heineman MJ, Cohlen BJ, Farquhar C.

The Verdict 1





The Verdict 2

1. There are insufficient trials with high quality to draw firm conclusions
2. There might be a beneficial effect of IUI in case of moderate to mild male subfertility
3. There seems no place for ovarian hyperstimulation except perhaps for mild male subfertility resembling unexplained.





The Verdict 3

4. We are not able to predict success. But failure is likely if we inseminate less than 0.8-5 million motile sperm. Determine your own 'optimal' cut-off level
5. In case of male subfertility a second insemination might be beneficial. But also cost-effective?





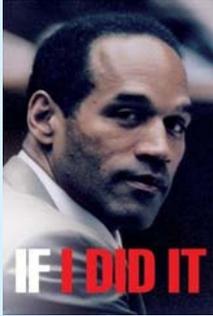
The Verdict 4

6. There are insufficient high quality trials to determine the optimal semen preparation technique. Gradient techniques yield the highest recovery rates.



The final verdict.....

Book written by OJ



Thank you for your attention

