



Do donor sperm characteristics influence the outcome of an artificial insemination treatment?

E. Creemers, E. Bosmans, A. Cox,
G. Mestdagh, M. Nijs, W. Ombelet

Genk Institute for Fertility Technology
Ziekenhuis Oost-Limburg, Genk

Introduction

- Homologous insemination:
 - influence of age of the patient, sperm morphology and inseminating motile count (IMC)
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- Donor insemination: data are scarce

Aim of the study

- Possible role of
 - Age of the patient
 - Donor sperm characteristics (IMC and morphology)

on outcome after donor insemination

- Pregnancy rate
- Clinical pregnancy rate

Material & Methods

- Retrospective analysis (January 2005 - September 2009)
- Stimulation: Clomiphene-citrate protocol
- Sperm preparation
 - Frozen donor straws from Cryos, Denmark
 - Gradient centrifugation
 - Two washing steps
 - Determination of IMC and morphology (strict Tygerberg criteria)
- Outcome
 - Pregnancy rate (PR)
 - Clinical pregnancy rate (CPR)
- Statistics
 - Chi square test
 - ROC curve analysis

Results

Patient population

- 1223 cycles (289 women)
 - Hetero: 763 cycles (178 women)
 - Lesbian: 418 cycles (100 women)
 - Single: 42 cycles (11 women)
- 172 different donor samples

Outcome

- PR/cycle = $233/1223 \longrightarrow 19.1\%$
- CPR /cycle = $143/1192 \longrightarrow 11.9\%$
- Cumulative pregnancy rate after 4 cycles = 57.4%
- Multiple pregnancy rate = 6.9% (9 twins, 1 triplet)
- Mean number of cycles to obtain a pregnancy = 3.64

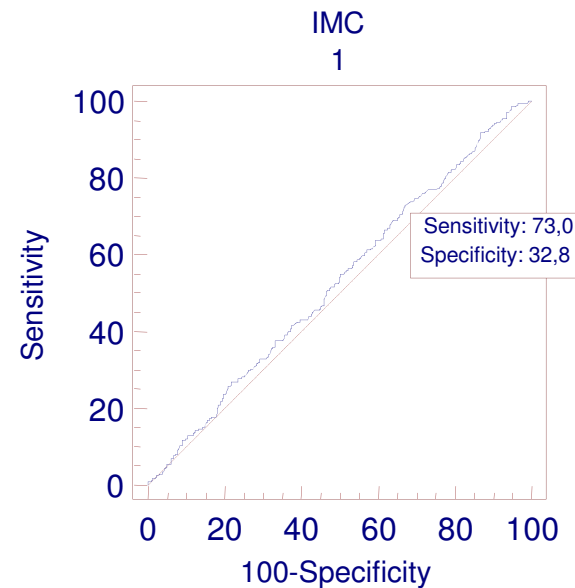
Results

Age of the patient

- Mean: 33.2 years (range 21-49)
- No predictive value for PR (p=0.61)

IMC

- Mean: 1.2 10^6 spermatozoa (range 0.021-26.8)
- No predictive value for PR (p=0.20)



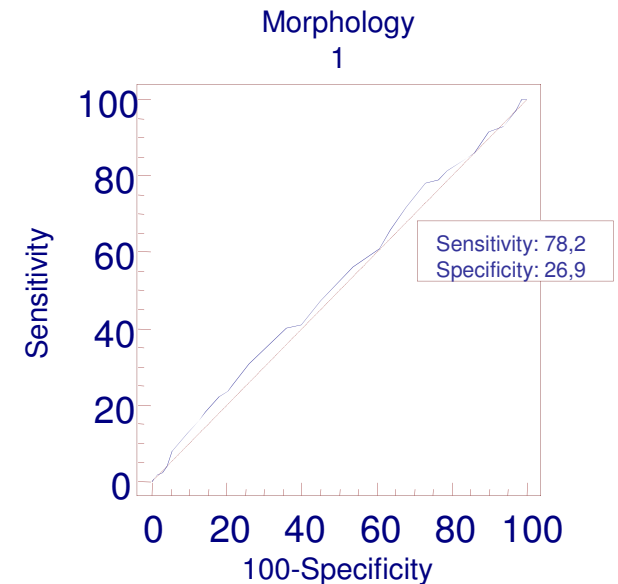
Results

Donor sperm morphology

- Mean: 8.5% (range 0.5%-21.5%)
- 21 donors with unknown morphology
- Significant less pregnancies for donors with morphology $\leq 4\%$ ($p=0.031$)

Morphology	Number of donors	PR
$\leq 4\%$	21	11.3%
$> 4\%$	130	18.2%

- No predictive value for PR ($p=0.27$)



Discussion

- Age of the patient, sperm morphology and IMC have no predictive value for the outcome of a donor insemination
 - age of patient = in contrast with other studies
(Botchan et al., 2001; De Brucker et al., 2009)
 - IMC = confirmation of other studies
 - morphology = novel finding, to be investigated further
- In contrast with homologous insemination outcome
 - Rigid medical screening of donors
 - Selection of DNA intact spermatozoa by freeze-thawing

Conclusion

- Efficient treatment with good success rates for all age groups
- Further research

Thank you for your attention!!!

