

"Embryo fragmentation and its influence on obstetric and perinatal outcome"

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INTRODUCTION

Our study presents the negative influence of embryo fragmentation in vitro on the outcome of assisted reproduction techniques (ART). We are dealing with the impact of embryo fragmentation on obstetric and perinatal outcome.

MATERIALS AND METHODS

Therefore, we retrospectively searched a pool of 149 embryo transfers for homogeneous transfers consisting exclusively of embryos with the same degree of fragmentation (n=113). All in all 20 pregnancies could be achieved which were analysed for the incidence of antepartum complications during gestation, obstetric (multiple pregnancy, preterm delivery, Caesarian section) and perinatal outcome (sex, birth weight, admission to neonatal intensive care unit, malformation).

RESULTS

In 58 transfers no fragmentation was detectable (A), in 34 transfers all embryos showed <25% fragments (B), and 21 transfers consisted of poor quality embryos (>50% fragments, C). The pregnancy rates were 46,8 – 32,8 – 20,7 %, respectively (P<0,004). In the three groups no significant difference was found concerning complications, multiple pregnancy rate, incidence of Caesarian section, gestation week, birth weight and average time at neonatology. On the other hand, group C patients showed a significant higher rate of malformations (P<0,04) and a significant lower number of delivered children per implanted embryo (P<0,001).

CONCLUSION

This worse outcome compared to good and fair quality embryos, may be due to a higher percentage of chromosomal disorders. For ethical reasons it might be considered not to transfer embryos with more than 50% fragmentation.

