

# Triplet pregnancy and fetal reduction counselling

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*Summary:* The aim of this study was to compare the fetal loss between triplet pregnancies that underwent fetal reduction to twins and triplets which continued in spite of reduction being suggested to all of them.

During a five year period a total of 3,518 cycles underwent ovarian stimulation with GnRH analogues, HMG, pure-FSH and HCG for the purpose of IVF; 2,918 women underwent ovarian aspiration leading to 2,380 embryotransfers. A total of 560 clinical pregnancies were detected with 24 clinical triplet pregnancies.

Fourteen women continued their triplet pregnancy while 10 women underwent fetal reduction to twins.

From 42 fetuses (14 triplets) starting the third trimester only 29 survived (total fetal loss 30.9%). From 14 fetuses (7 twins) starting the third trimester all survived. Three twins were lost during the second trimester due to cervix incompetence. Fetal reduction to twins must be proposed to each multifetal pregnancy, considering the very serious high mortality rate.

*Key words:* Triplet pregnancy; Fetal reduction.

## INTRODUCTION

The outcome of triplet pregnancies after in vitro fertilization has been the subject of special concern. In spite of an intensive and very careful follow-up of such pregnancies the increased risk of preterm

labour, prematurity, perinatal and post-natal mortality are always associated with multifetal pregnancies (<sup>1, 2, 3</sup>).

On the contrary, twin pregnancies after meticulous follow-up during gestation and perinatal care usually offer two take home babies.

During this study we proposed a fetal reduction to all our triplet pregnancies achieved after in vitro fertilization. Quadruplets and higher-order gestations always undergo a fetal reduction to twins and were excluded from this study.

Our purpose was to compare the total fetal loss between triplet pregnancies and twins after reduction of a triplet pregnancy.

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## MATERIALS AND METHODS

During a five year period a total of 3,518 cycles underwent ovarian stimulation for the purpose of in vitro fertilization.

Stimulation was achieved by administration of gonadotropin-releasing hormone analogue (1 mgr/day) of Suprefact Nasal Spray (Hoechst, Frankfurt am Main, Germany) and a combination of pure FSH (Metrodin; Serono, Aubone Switzerland) and hMG (Pergonal; Serono or Humegon, Organon, Oss, The Netherlands) from the third day of the cycle according to the daily estradiol monitoring (RIA) and follicular scanning (Toshiba Transvaginal Ultrasound probe, Japan).

HCG at a dose of 10,000 IU (Pregnyl by Organon) was administered when at least two follicles had a diameter of 15 mm and estradiol was 400-500 pg/ml per follicle.

Two thousand nine hundred and eighteen women underwent aspiration leading to 2,380 embryo transfers.

## RESULTS

A total of 560 clinical pregnancies were detected after at least three  $\beta$ -HCG determinations starting 15 days post embryo transfer and transvaginal ultrasound at the 7th week of gestation. Twenty four triplet pregnancies were visible at ultrasound (triplet pregnancy rate/transfer: 4.2%). A mean number of 11 oocytes were collected from all women with triplet pregnancies while 4.9 embryos were transferred to them.

Fourteen women out of the 24 with triplets continued their pregnancies although a fetal reduction to twins was suggested. From these 14 pregnancies only 8 gave 24 livebirths by caesarean (gestational week 34th to 36th). During three pregnancies with delivery between 29th to 33rd week two fetuses survived from each pregnancy except one case where only one survived. Three women delivered between 25th-28th week and all fetuses died during intrauterine life or shortly after birth.

Out of the 10 triplet pregnancies that underwent fetal reduction to twins, 3 we-

re lost during the second trimester due to cervix incompetence, while all rest, 14 fetuses were delivered between the 35th to 38th week. No perinatal mortality occurred.

## DISCUSSION

Infertile patients who conceive a multifetal pregnancy after assisted reproductive technologies may suddenly have to face the fact that, after many years of infertility and after a stressful procedure, they have to decide whether the multiple pregnancy should be continued or be reduced to twins. This is the "bitter irony" for all these couples, as Evans *et al.* have mentioned (<sup>4</sup>).

Most studies have shown a significantly different outcome of triplet pregnancies compared with twins. The outcome is intimately related to prematurity, as was shown in our study too.

As is mentioned by the Ethics Committee of the American Society for Reproductive Medicine (formerly the American Fertility Society) the goal of in vitro fertilization is to maximize the pregnancy rates while minimizing the multiple gestation rates (<sup>5</sup>).

Of course the transfer of many embryos offers better results with higher pregnancy rates. On the other hand the risk of multiple pregnancies is increased (<sup>1</sup>). Many countries in Europe are limiting the number of embryos to be transferred to two (<sup>2</sup>).

We still transfer four and sometimes even five embryos of good quality and prefer to counsel the couple about fetal reduction in cases of multiple pregnancies (triplets, quadruplets) (<sup>6</sup>). The high mortality rate of triplets is usually discussed with all women having a triplet or multifetal pregnancy. The final decision remains for the couple to take.

## REFERENCES

- 1) Manzur A., Goldsman M., Stone S.C., Frederick J.L., Balmaceda J.P., Asch R.H.: "Outcome of triplet pregnancies after assisted reproductive techniques: how frequent are the vanishing embryos?". *Fertil. Steril.*, 1995, 63 (2), 252-257.
- 2) Nijs M., Geerts L., van Roosendaal E., Segal-Bertin G., Vanderzwalmen P., Schoysman R.: "Prevention of multiple pregnancies in an in vitro fertilization program". *Fertil. Steril.*, 1993, 59 (6), 1245-1250.
- 3) Lipitz S., Seidman D. S., Alcalay M., Achiron R., Maschian S., Reichman B.: "The effect of fertility drugs and in vitro methods on the outcome of 106 triplets pregnancies". *Fertil. Steril.*, 1993, 60 (6), 1031-1034.
- 4) Evans M. I., May M., Drugan A., Fletcher J. C., Johnson M. P., Sokol R. J.: "Selective termination: clinical experience and residual risks". *Am. J. Obstet. Gynecol.*, 1990, 162, 1568-1575.
- 5) Jones H. W.: "Twins or more". *Fertil. Steril.*, 1995, 63 (4), 701-702.
- 6) Lipitz S., Maschiach S., Seidman D. S.: "Multifetal pregnancy reduction: the case for non-directive patient counselling". *Human Reproduction*, 1994, 11, 1978-1979.

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