The Role of FSH Therapy for Male Infertility in the Era of ICSI

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Summary

FSH therapy for the male suffering from severe OTA or non-obstructive "maturation arrest" azoospermia is beneficial, ... rates. It is possible that improved embryo quality, due to improved paternal factor, contributes to these results.

Introduction

Our group presented recently that pFSH (Metrodin) administered to the male partner in OTA cases improved sperm electron microscopical ultrastructure, with improvement of fertilization rate in vitro and increased pregnancy rates(1).

In this study we treated the male partners with pFSH prior to IVF-ICSI cycle and presented significantly better fertilization and pregnancy rates in the next IVF-ICSI, testicular surgical sperm extraction cycle.

Material and Methods

112 IVF-ICSI cycle patients without pregnancy achievement were allocated prospectively at random in the study (treated) and control (n=56) group. The men received pFSH and controlled physical examination and follow up. The group consisted of 61 men with severe OTA and 51 men with "maturation arrest" azoospermia. The men were treated with 75 IU pFSH (Metrodin) 1 ampule intramuscularly daily during 50-70 consecutive days prior to their next IVF-ICSI cycle.

In another cohort of 36 non-obstructive azoospermic males, 15 were diagnosed as "maturation arrest" cases by testicular sperm extraction, with subsequent preparation and embryo transfer. The men treated with 75 IU pFSH (Metrodin) 1 ampule intramuscularly daily and repeated their IVF-ICSI surgical sperm extraction cycle, with repeated evaluation of testicular histology.

Results

IVF-ICSI and Metrodin therapy results are presented in Table 1. A higher pregnancy rate was documented in the treated group II (16.4% vs 11.1%). A trend towards increased number of grade A embryos was observed in the group treated with pFSH (2.2±1.6 vs 1.6±1.6).

The cohort of 15 non-obstructive azoospermic males (Table 2) treated with pFSH, group II, was compared to non-treated group I, with improvement of the histology in repeated testicular biopsy during IVF-ICSI, surgical sperm extraction cycle.

Conclusions

Our findings suggest that pFSH therapy for the male partner should be considered as adjuvant treatment in couples with severe OTA or "maturation arrest" azoospermia. pFSH treatment leads to improved sperm ultramorphology leading to better embryo quality, resulting in blastocysts with better implantation potential.

These findings confirm that there is a clear paternal contribution to embryo quality with adequate sperm morphology and motility on a large cohort of patients treated with testicular sperm extraction combined with in vitro fertilization and subsequent embryo transfer.