

Infertility: Therapy

Moderated Poster 42

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MP42-02

EFFECTS OF THE COMBINATION OF DIFFERENT FSH MOLECULES ON SPERM PARAMETERS AND PREGNANCY: A PROSPECTIVE CONTROLLED STUDY

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INTRODUCTION AND OBJECTIVE: FSH is often prescribed in men with oligozoospermia or hypogonadotropic hypogonadism, but numerous formulations are available and little is known about whether one agent is superior or whether a failure within this class of medications predicts failure with another agent. The objective of this study was to evaluate the effect of switching to a different FSH molecule from the one to which male infertile patients showed a lack of response.

METHODS: In this prospective controlled study, 74 infertile patients with non-obstructive alterations in sperm parameters and normal gonadotropin levels who did not respond to treatment with highly purified FSH (hpFSH) [Group 1 (n=22) and Group 3 (n=15)] or to recombinant human FSH (rhFSH) [Group 2 (n=22) and Group 4 (n=15)] were enrolled. After 3 months of washout, rhFSH was prescribed to patients in Groups 1 and 4 and hpFSH to those in Groups 2 and 3, at a dose of 150 IU three times a week for three months. Patients in Groups 3 and 4 continued the treatment with the same FSH molecule with which they had started, acting as controls. The endpoints of the study were conventional sperm parameters and the number of pregnancies achieved, luteinizing hormone (LH), FSH, total testosterone (TT), and testicular volume, which were assessed before starting treatment and after first and second cycle of treatment.

RESULTS: At baseline, the groups did not differ on any of the study endpoints. After the first cycle of treatment, no pregnancy was recorded in all groups, highlighting the poor responsiveness to therapy. In intragroup analysis, the switched groups (Groups 1 and 2) showed a significant improvement in sperm concentration, total sperm count (TSC), progressive motility, and morphology, while the non-switched groups presented an improvement in sperm concentration and TSC compared to baseline. In the inter-group comparison, the greatest improvement in sperm parameters was obtained by the groups in which the FSH molecule was changed for the second treatment cycle. Group 1 showed the greatest benefit from the therapy, recording a higher percentage of pregnancies after the second treatment cycle, with 8 patients achieving a pregnancy (36.4%), compared to Groups 2 (n=4; 18.2%), 3 (n=1; 6.7%), and 4 (n=2; 13.3%) (p=0.04).

CONCLUSIONS: These results suggest the superiority of the "switching" scheme compared to treatment with the same FSH molecule for six months. hpFSH for 3 months followed by treatment with rhFSH for the other three months, both at a dose of 150 IU three times a week, seems the best therapeutic option.

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MP42-03

VARIATIONS IN SERUM SEX HORMONES AND SEMEN CHARACTERISTICS FOLLOWING CLOMIPHENE CITRATE TREATMENT IN MALE INFERTILITY

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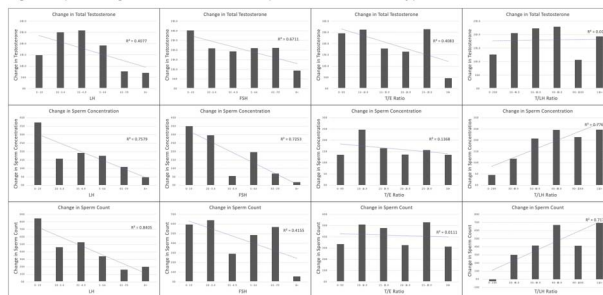
INTRODUCTION AND OBJECTIVE: The predictive metrics for assessing fertility outcomes following clomiphene citrate (CC) treatments are understudied. Our objective was to delineate the pre-treatment sex hormones that exhibit the strongest correlation with semen parameter improvements in CC-treated patients and to provide expected magnitude of improvement of key fertility parameters.

METHODS: Our retrospective study involved 257 subfertile men who were administered CC for a duration of 3 months. Exclusion criteria included individuals with azoospermia, those with only a single semen analysis, those with a history of hormone therapy usage, or genitourinary intervention. Men were categorized into groups of at least ten patients based on their pre-treatment levels of luteinizing hormone (LH), follicle-stimulating hormone (FSH), testosterone/estradiol (T/E) ratio, and T/LH ratio. Primary outcomes investigated include absolute changes in total testosterone (TT), sperm concentration, and total sperm count.

RESULTS: 134 patients met inclusion criteria. Pre-treatment FSH and LH were inversely correlated with improvements in TT ($R^2=0.67$ and 0.41 ; $p<0.001$ for both), sperm concentration ($R^2=0.73$ and 0.76 ; $p=0.076$ and $p<0.001$, respectively), and sperm count ($R^2=0.42$ and 0.84 , $p=0.052$ and <0.001 , respectively). The T/E ratio exhibited a significant association with testosterone ($p=0.0031$), while the T/LH ratio did not demonstrate significant associations with any outcomes. Figure 1 provides the average magnitude of improvement of TT, sperm count, and sperm concentration by gonadotropin metrics of interest.

CONCLUSIONS: Gonadotropin measurements are sufficient in predicting improvement in sperm parameters in men using CC for 3 months compared to ratio metrics. These data may also be useful for expectation management of magnitude of improvement of key fertility parameters.

Figure 1. Expected change in total testosterone and semen parameter outcomes stratified by pre-treatment hormone metrics



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MP42-04

CLOMIPHENE CITRATE AND VARICOCELECTOMY VS VARICOCELECTOMY ALONE: IMPACT ON SEMEN PARAMETERS AND PREGNANCY RATES

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INTRODUCTION AND OBJECTIVE: Various studies have demonstrated the benefit of varicocelectomy on both semen parameters as well as conception rates in infertile males. Off-label use of clomiphene citrate has also been shown to improve semen parameters and conception rates, but this has seen a significant nationwide shortage. Our study aims to investigate whether the