



VARICOCELE & OLIGOASTHENOTERATOZOOSPERMIA: EVALUATION OF ANTIOXIDANT SUPPLEMENTATION EFFECT ON PREGNANCY RATE & SPERM QUALITY

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CONTEXT

Many factors negatively affecting semen quality act through decreasing energy availability by mitochondrial dysfunction and sperm are also vulnerable to reactive oxygen species because their accumulation leads to membrane damage, instability and functional alterations causing cell death.

OBJECTIVE

To evaluate, utilizing a randomized double-blind placebo controlled trial, the effect of supplementation with selected naturally compounds on pregnancy rate and sperm quality. The effect was evaluated in subjects with oligo or asthenoteratozoospermia, as well as with or without varicocele.

METHODS, PATIENTS and INTERVENTIONS

With a block randomization 104 patients were enrolled: 52 had grade I-III varicocele and 52 were not affected. Patients belonging to these 2 groups were further divided in two groups consisting of the supplementation arm and the placebo arm.

Spermogram evaluation was done at the beginning of treatment and at the end.

MAIN OUTCOME and MEASURES

Adverse events occurred only in the treatment group: 4 patients had nausea and 3 vertigo or headache. Twelve pregnancies occurred during follow-up time: 10 in supplementation group (9 non-varicocele and 1 varicocele) and 2 in placebo group (1 non-varicocele and 1 varicocele). One spontaneous abortion was reported in placebo arm.

Mean changes of number of sperm (106 x mL) after treatment were 1.7 in the placebo group and 9.8 in the supplemented group ($p=0.0186$). Mean changes of sperm concentration (106 x mL) after treatment were 13.0 in the placebo group and 46.9 in the supplemented group ($p=0.0117$). Mean changes of progressive motility of sperm (%) were 1.7 in the placebo group and 5.9 in the supplement group ($p=0.0088$). Mean changes of total motility of sperm (%) were 1.6 in the placebo group and 7.3 in the supplement group ($p=0.0120$). Analyzing typical and atypical morphology there was, respectively, a difference of -6.1 and 5.9 in the placebo group while -6.7 and 3.6 in the supplement group.

RESULTS and CONCLUSIONS

Oxidative stress is a cause of male infertility with significant negative effect on semen parameters and varicocele is an additional cause of poor sperm quality. The use of functional substances is an

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efficacious strategy to handle male infertility. All sperm parameters significantly increased in treated subjects, while a strong increase in pregnancy rate was reported only in non-varicocele arm.

SUPPORT

Sigma-tau HealthScience provided supplement product.