

THE EFFECT OF ORAL ANTIOXIDANT TREATMENT IN COUPLES WITH PRECLINICAL RECURRENT EMBRYO LOSS. INTERIM ANALYSIS.

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Objective: To evaluate whether oral antioxidant treatment reduces elevated DNA fragmentation index (DFI) in ejaculated spermatozoa and how this affects pregnancy outcome in couples with preclinical recurrent embryo loss.

Patients: We studied 21 patients with increased DFI (> 30%), whose spouses had a history of preclinical recurrent embryo loss. The majority (19/21) presented with OAT requiring ICSI; all were offered antioxidant treatment [daily vitamin C: 1 g; vitamin E: 671 mg; L-Arginine: 500 mg] for ≥ 3 months.

Results: DFI reduction after treatment was observed in 81% of the patients (17/21, group A; DFI = 51.0±9.1% vs. 34.3±13.0%, $p < 0.0001$). The remaining 19% (4/12, group B) had the same or an increased DFI. In the post-treatment IVF cycles undertaken by 15 out of the 17 couples in group A, we obtained 5 clinical pregnancies that came to term; we obtained no pregnancies from group B. Further analysis of DFI among group A patients showed that the decrease was not significantly larger in the patients that produced viable pregnancies [group A: 28.9±16.7% vs. 44.7±19.5%; $p = 0.1109$].

Conclusions: This preliminary investigation indicates that oral antioxidant supplementation reduces DFI in the majority of male partners. However, patients who achieved viable clinical pregnancies after antioxidant treatment did not exhibit a significant DFI decrease compared to those that did not have a positive outcome. We are further investigating this trend prospectively, in order to provide better counseling for our patients.