

## **THE CONTRIBUTION OF COENZYME Q10 TO IMPROVE IN VITRO FERTILIZATION OUTCOME**

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**Introduction:** Aging is frequent associated with loss of mitochondrial function. Coenzyme Q10 (CoQ10), a lipid-soluble component of all cell membranes, is the major cellular antioxidant and essential to mitochondrial function. Its tissue level decreases with age. One study has found an improvement of the quality of bovine embryos treated in vitro with CoQ10. The aim of this study was to assess the contribution of CoQ10 to improve in vitro fertilization (IVF) outcome.

**Material and methods:** It was a prospective randomized study accomplished in Instituto Paulista de Ginecologia, Obstetricia e Medicina da Reproducao (Sao Paulo, Brazil). Between January and December 2010, 44 women older than 37 years, with a previous IVF failure, were selected. In group I, the patients received CoQ10 150 mg/d for at least 30 days before the IVF cycle, taking the medication until the oocyte retrieval. In group II, they were submitted straight to the next cycle. All of them received the same protocol for ovarian stimulation.

**Results:** No difference was found between the two groups in terms of patient's age (40). We observed a slightly higher number of oocytes and mature oocytes in group without CoQ10. However, in CoQ10 group were found an increasing of fertilization rate, number of embryos, embryo quality, pregnancy and clinical pregnancy rate. All the results have had no statistical significance, probably due to a small number of cases.

**Conclusion:** The use of CoQ10 may benefit the oocyte and embryo quality. Nevertheless, larger studies are needed to confirm the effectiveness of this supplement.