

## MALE FACTOR INFERTILITY

# Coenzyme Q<sub>10</sub> improves semen quality and pregnancy rate

Dietary supplementation with coenzyme Q<sub>10</sub> (coQ<sub>10</sub>) improves semen parameters in men with idiopathic oligoasthenoteratozoospermia, owing to a role in reducing oxidative stress. Now new data published in *International Urology and Nephrology* show that this improvement in sperm quality is translated into an increase in pregnancy and live birth rate.

Sperm cells are able to generate reactive oxygen species (ROS), which are removed by the cells' antioxidative systems. However, when the creation of ROS overwhelms these systems, the resulting oxidative stress can be a causative factor for male factor infertility. Antioxidants such as vitamin C and glutathione have been tested for efficacy in treating male factor infertility, and previous studies have shown that coQ<sub>10</sub>, which is an essential carrier in the mitochondrial electron transport chain, improves sperm

motility. "CoQ<sub>10</sub>—or ubiquinone—an isoprenylated benzoquinone that transports electrons from complexes I and II to complex III in the mitochondrial respiratory chain, is essential for the stability of complex III," explains the study author Mohammad Reza Safarinejad.

In the current study, 354 infertile men with idiopathic oligoasthenoteratozoospermia were treated with 300 mg coQ<sub>10</sub> orally twice daily for 12 months. After coQ<sub>10</sub> treatment, mean sperm concentration, total sperm count and percentage of normal sperm increased significantly, with patients demonstrating an increase in total sperm count of over 100% after 12 months of therapy ( $P=0.01$ ). The total pregnancy rate in treated couples was 34.1%, within a mean treatment period of  $8.4 \pm 4.7$  months, compared with a rate of only 6.4% if men were not treated. 93% of pregnancies resulted in live births.



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"Infertility caused by idiopathic oligoasthenoteratozoospermia syndrome without any female factor represents one of the biggest patient groups in the daily practice of urologists," comments Safarinejad. "We urgently need effective, inexpensive, and safe medications for dealing with oligoasthenoteratozoospermia".

Annette Fenner

**Original article** Safarinejad, M. R. The effect of coenzyme Q(10) supplementation on partner pregnancy rate in infertile men with idiopathic oligoasthenoteratozoospermia: an open-label prospective study. *Int. Urol. Nephrol.* doi:10.1007/s11255-001-0081-0