Treatment of impaired sperm quality comparing a combination of eight micronutrients with a standard mono preparation

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Context
Approximately 50% of all infertile couples' cases are related to an impaired semen quality. In 30-80% oxidative stress and lack of micronutrients is responsible for the impaired semen quality.

Objective
The objective of this retrospective study was to compare the effect of a combination of 8 active compounds with a single active compound on semen parameters.

Patients
Patients were 18-60 years old, suffered from subfertility over 1 year, had one or more recent pathologic semen analysis according WHO 2010 and didn't meet any exclusion criteria.

Methods
From 2006-2014 261 patients of the IMI Fertility Center, Vienna and the Med19 Study Center, Vienna were enrolled in the study. 134 sub-fertile men were treated with a mono preparation and 127 patients received the combined preparation. Semen analysis was performed before and after intervention. Our house ethics committee approved the study.

Interventions
For 3 months patients took either the mono preparation (l-carnitine 1000mg, received by pharmaceutical preparation) or the combination treatment (l-carnitine 440mg, l-arginine 250mg, zinc 40mg, vitamin E 120mg, glutathione 80mg, selenium 60µg, coenzyme Q10 15mg, folic acid 800 µg (Profertil; Lenuspharma Vienna, Austria)).

Results
Within both therapy groups, treatment regimes increased all semen parameters to a highly significant level (p<0,001). The combined therapy increased rapidly progressive motile sperms highly significantly (p=0,004) and overall progressive sperm count significantly (p=0,01) compared to the mono-substance group. Semen volume and sperm count where increased comparing the combined with the mono-substance group without significance, morphology appeared unchanged.

Conclusion
Both therapies increased semen parameters to a significant level. The combination supplement was significantly superior in improvement of progressive and total motility.