

Abstract

Fertil Steril. 2005 Feb;83(2):355-61.

Oral carnitine supplementation increases sperm motility in asthenozoospermic men with normal sperm phospholipid hydroperoxide glutathione peroxidase levels.

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OBJECTIVE: To clarify the role of carnitine supplementation in idiopathic asthenozoospermia and to look for a rationale for its use in asthenozoospermic patients.

DESIGN: Blind clinical study.

SETTING: Academic.

PATIENT: Thirty asthenozoospermic patients divided in two groups according to phospholipid hydroperoxide glutathione peroxidase (PHGPx) levels.

INTERVENTIONS: Placebo for 3 months, then oral L-carnitine (2 g/day) for 3 months; semen samples were collected at baseline, after placebo, after carnitine administration, and again after 3 months with no drugs.

MAIN OUTCOME MEASURES: Evaluation of seminal parameters and determination of seminal PHGPx levels, measured as rescued activity.

RESULTS: When asthenozoospermic subjects were divided in two groups on the basis of PHGPx levels, we observed an improvement of mean sperm motility only in the group of patients with normal PHGPx levels.

CONCLUSIONS: Phospholipid hydroperoxide glutathione peroxidase has an important role in male infertility, and carnitine treatment might improve sperm motility in the presence of normal mitochondrial function.

PMID: 15705374

