The effects of Ginger consumption on sperm parameters and its relation to oxidative stress in idiopathic infertile men referred to Royan Institute

Context: The poor semen parameters quality is one of the most important factors in male infertility and oxidative stress is a probable contributing pathology for it. Anti-oxidant therapy could deactivate the destructive effects of oxidative stress and amend sperm's parameters quality. Ginger is an herbal medicine with a long history of medicinal use which has potent antioxidant activity.

Objective: The aim of this study is to evaluate the effects of Ginger consumption on sperm parameters and its relation to oxidative stress in idiopathic infertile men referred to Royan Institute.

METHODS: The samples were collected by masturbation after a period of sexual abstinence of 48 to 72 hours. Sperm parameters are assessed by means of Computer-Aided Sperm Analysis (CASA), ROS (Reactive Oxygen Species) levels are evaluated by chemiluminescence (CL) technique; all according to the WHO 2010 manual, and DFI (DNA Fragmentation Index) are measured by TUNEL test. Data analysis was performed using SPSS software and T-test analysis, and statistical significance was set at P<0.05.

Patients: 18 infertile men who referred to the Royan infertility Center with idiopathic infertility were introduced in this study.

Interventions: All patients orally intake Ginger capsules (250 mg) twice a day over a 3 months period. They produced semen samples for analyses before and after of treatment.

Main Outcome Measures: Semen analysis, ROS level measurement, and DFI assessment were performed on the all samples (before and after).

RESULTS: Total count, total motility, and normal morphology of sperms significantly increased after of Ginger consumption, but ROS levels and DFI significantly decreased.

CONCLUSION: Ginger consumption could prevent the oxidative stress in semen fluid by decreasing of ROS levels in sperms. These conditions may results in improving sperm's parameters quality such as sperm concentration, motility and morphology, and also to decrease DFI levels of sperms. So we can conclude that Ginger consumption could help infertility treatment by improving semen quality.