Evaluation of Oxidative Stress in Men with Idiopathic Infertility

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Abstract

Infertility is a global problem affecting 15% of couples in the world. Male factor is responsible to half of all infertility cases. In 25% of male infertility cases men have normal sperm parameters but unable to fertilize their partners, these cases are classified as idiopathic infertility. The aim of this study was to investigate the oxidative stress status in semen and serum of idiopathic infertile men. Semen and blood samples were collected from infertile and fertile subjects, semen was analyzed according to WHO 2010 guideline, and oxidative stress marker were estimated.

Introduction

Infertility affects 15% of couples in the world (1-3). Male factor is involved in 50% of all cases (4, 5). Male Infertility have been attributed to deteriorated sperm number or function (6). Andrologists concern male factor infertility only when semen analysis finds abnormal sperm count, motility, or morphology; However, in nearly 25% of male infertility cases males may have problem fertilize their partners even when they have normal sperm number, motility, or morphology (Normozoospermic), these cases are classified as idiopathic infertility (7, 8). Contemporary parameters have been introduced (e.g., Creatine kinase (CK) activity, ROS, antioxidants, lipid peroxidation, DNA damage, etc.) as markers for male infertility. The CK plays a major role in ATP metabolism and energy homeostasis in spermatozoa (9). The CK has an association with oxidative stress and poor semen quality in infertile men (10, 11), the enzyme activity significantly increased in spermatozoa of infertile men (12, 13). Oxidative stress is a situation of imbalance between production and removal of ROS (14).