Title: Age related decrease of reactive oxygen species in neat semen of healthy fertile men

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Objective: Although age-related changes in the male reproductive system are universally recognized, the question of declining fertility with age is controversial. Recently, an interest in the use of ROS as markers of male infertility has arisen since ROS is related to fertilization capacity. The objective of this study was to analyze the relationship between age and levels of seminal free radicals in men presenting for voluntary sterilization.

Design: Prospective

Materials and Methods: We prospectively evaluated 98 fertile men undergoing vasectomy and divided them in younger than 40 (n = 78) and older than 40 (n = 20). Forty-six infertile patients were used as a positive control. Standard semen analysis, levels of ROS and seminal leukocyte levels were tested in all samples. Fertile men with leukocytospermia were excluded.

Results: The mean age of the men included was 35.1 ± 5.6 years. Men 40 years and older had significantly higher ROS levels compared with younger men (Table 1). A significant correlation was found between ROS levels and age. In addition, ROS were significantly correlated with sperm concentration and motility (Table 2).

Conclusions: ROS levels are significantly higher in the semen samples of healthy fertile men (older than 40 years). Also, ROS levels in neat semen are significantly correlated with age among fertile men. ROS is known to be involved in the pathogenesis of male infertility, we can suggest based on our results that delayed fatherhood may reduce the chance of pregnancy as men become progressively less fertile.

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