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TITLE

THE EFFECT OF COTININE CONCENTRATION IN SEMINAL PLASMA ON SEMEN PARAMETERS OF PATIENTS UNDERGOING ART THERAPY

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ABSTRACT

Cigarette smoking is a broadly recognized health hazard and a major cause of mortality, but still people continue to smoke cigarettes on a regular basis. The higher prevalence of smoking is seen among young men during fertility years.

Objectives. To determine the concentration of cotinine in seminal plasma of smoker patients undergoing Art therapy and the effect of cotinine on other semen parameters

Materials and Method. Non-Smokers (n= 19), smokers (n= 35) undergoing ART Therapy were enrolled in this study. Spermiogram has been done according to WHO guidelines. In addition protamine deficiency was assessed by Chromomycine (CMA3), Whereas, Vitality by eosin and the membrane integrity by Hypo osmotic swelling test (HOS). Malondialdehyde (MDA) was evaluated using a modified thiobarbituric acid (TBA) technique. The levels of cotinine in seminal plasma were measured using the Calbiotec Cotinine Direct Elisa Kit.

Results: The mean values of investigated semen parameters of smokers were Cotinine 62.53±6.15 (ng/mL), volume 2.65±0.22 (mL), count 43.19±5.76 (mill/mL), motility 25.56±2.48%, vitality 40.37±3.20%, CMA3 (positive) 36.96±2.33%, membrane integrity 56.30±2.07%, (MDA) 6.99±0.22(µM) and the corresponding value of non-smokers were 2.06±0.68 (ng/mL); 3.19±0.34 (ml); 74.61±7.29 (mill/mL); 42.22±5.15%; 56.67±3.77%; 21.06±1.42%; 72.22±2.03% and 4.39±0.27(µM) respectively. The mean investigated parameters of smoker were significantly lower than the value observed by non-smokers exception for volume (p = 0.194).

Conclusions: The present study demonstrates that cigarette smoking reduce significantly the sperm parameters in comparison to non-smokers patients undergoing ART. Therefore, we advise these patients to quit smoking before ART therapy.

INSTITUTE

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