EFFECT OF VITAMIN E PRE-TREATMENT ON SPERM MOTILITY, CONCENTRATION AND OXIDATIVE STRESS MARKERS OF RESTRAINT MALE WISTAR RATS


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ABSTRACT

Restraint stress results to increased generation of reactive species, induces oxidative damage and, consequently, alters sperm indices. The aim of this experiment was to determine if vitamin E modulates adverse effect of oxidants on some sperm indices in Wistar rats, subjected to restraint stress. The experiment was conducted using 12 male Wistar rats weighing about 140-150 g. The animals were randomly divided into four groups of three animals each. Group I - normal control, Group II - (vehicle group; olive oil) + restraint stress group, Group III - stress control group, Group IV vitamin E (100 mg/kg bw) + restraint stress. Restraint stress was induced by placing rats in specially-constructed restraint meshes for 6 h (between 9.00-15.00 h) for 21 days, testes homogenate was evaluated for malondialdehyde (MDA), catalase (CAT), superoxide dismutase (SOD) and glutathione peroxidase (GPx). Result of vitamin E groups show significant (P<0.05) increase in sperm concentration and motility, when compared to stress control groups. There was significant (P<0.05) increase in SOD and CAT in vitamin E pre-treated groups when compared to stress controls. In conclusion restraint stress in male Wistar rats induced induces oxidative stress, which decreased sperm motility and concentration, ameliorated by administration of vitamin E.

Keywords: Biomarkers, stress, sperm, count, motility, vitamin E
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