

ABSTRACT

The study was to investigate whether alpha tocopherol has effect on sperm motility, velocity and abnormal mid-piece (neck) in *Rattus norvegicus* with stressor.

A double - negative and positive-controlled was performed. Thirty five *Rattus norvegicus* (200-300 g body weight) were investigated. *P* (1) 7 of them received alpha tocopherol 50 mg/Kg BW; *P* (2) 7 of them received alpha tocopherol 100 mg/Kg BW; *P*(3) 7 of them received alpha tocopherol 200 mg/Kg BW—all received stressor for 21 days.

That's not a significant in the percentage of sperm motility in the treated alpha tocopherol 50 mg/Kg BW was observed when compared to the positive control (0.122143 ± 0.061091 versus 0.120357 ± 0.049737 , $p < 0.05$), percentage of the sperm velocity was increased (20.2143 ± 3.7401 versus 23.4286 ± 1.3048 , $p < 0.05$), while mid-piece sperm abnormality decreased significantly (7.2500 ± 1.0897 versus 3.3929 ± 0.9449 , $p < 0.05$).

Significant increase in the percentage of sperm motility in the treated alpha tocopherol 100 mg/Kg BW was observed when compared to the positive control (0.122143 ± 0.061091 versus 0.213214 ± 0.097796 , $p < 0.05$), percentage of the sperm velocity was also increased (20.2143 ± 3.7401 versus 29.0714 ± 1.2051 , $p < 0.05$), while mid-piece sperm abnormality decreased significantly (7.2500 ± 1.0897 versus 2.2500 ± 0.8539 , $p < 0.05$).

That's not a significant increase in the percentage of sperm motility in the treated alpha tocopherol 200 mg/Kg BW was observed when compared to the positive control (0.122143 ± 0.061091 versus 0.193210 ± 0.055372 , $p < 0.05$), percentage of the sperm velocity was also increased (20.2143 ± 3.7401 versus 22.2143 ± 1.8225 , $p < 0.05$), while mid-piece sperm abnormality decreased significantly (7.2500 ± 1.0897 versus 5.8929 ± 0.5563 , $p < 0.05$).

The conclusion of the study is that :1) The stressor can be decrease sperm motility, was also decrease sperm velocity and increase mid piece sperm abnormality. 2) The treated alpha tocopherol 50 mg/Kg BW was observed when compared to the positive control, constant sperm motility, increase sperm velocity and decrease sperm abnormality.3) Alpha tocopherol when given at a dose of 100 mg/Kg BW was proven to be effective in restoring some of the sperm morphology and functions such as motility, velocity and normal morphology. 4) Alpha tocopherol when given at a dose of 200 mg/Kg BW was responsible for the pro-oxidant. 5) Positively correlated between sperm motility vs sperm velocity; while negatively correlated between mid piece sperm abnormality vs sperm motility and sperm velocity.

Key word : Alpha tocopherol, sperm motility, sperm velocity.