HP-31: Study of the cytoprotective effect of vitamin c on chlorpyrifos induced toxicity on spermatozoa

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Subject description: Exposure to pesticides has raised significant apprehensions regarding their potential risks to human health. Chlorpyrifos (CPF) caused a potential s male reproductive injuries in mammal.

Objectives: The aim of this study was to evaluate the reproductive damage caused by CPF on male Capra spermatozoa and to evaluate the protective effect of vitamin C.

Methods: Sperm from the cauda epididymidis was cultured in vitro to confirm the deleterious effects of CPF (50ug/ml). Semen samples of Capra were divided into three aliquots at room temperature. The first aliquot served as control not exposed to treatments, and the second was exposed to CPF for 1h30. The last one was incubated with 0.1mg/ml of vitamin C after treatment with CPF. The sperm quality was determined by the assessment of sperm motility using Computer Assisted Semen Analysis (CASA).

Results: The results demonstrated a significant decrease in sperm motility after treatment with CPF. However, the pretreatment with vitamin C exhibited a significant improvement on sperm motility.

Conclusion: These data indicated that, CPF can alter the motility of spermatozoa in Capra male spermatozoa, which is improved after using vitamin C.

Keywords: Chlorpyrifos, sperm, vitamin C, in vitro, motility, Capra male.