EVALUATION OF THE TOXICITY OF INTIMATE LUBRICANTS ON SPERM FERTILITY PARAMETERS

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INTRODUCTION: Infertility affects about 80 million people worldwide, according to the World Health Organization. The use of lubricants during sexual intercourse is usual among couples trying to conceive. However, most commercial lubricants may compromise sperm integrity and reduce the chances of reproductive success. OBJECTIVE: To evaluate the reproductive toxicity of lubricants K-Y® Gel, K-med® and coconut oil (OC) were tested in swine seminal samples, focusing on sperm motility and vitality. The OC was tested as a natural alternative for use as a lubricant. MATERIALS AND METHODS: Six samples of swine semen were used, maintained under conditions according to the supplier's instructions. The samples were divided into four experimental groups: control (CTL) (0.9% saline), coconut oil (OC), K-Y® Gel and K-med®. The samples were incubated with the lubricants, motility and vitality parameters were analyzed under optical microscope. Motility was classified into progressive (MP) or motile *in situ* (MIS) or non-motile sperm (IM). Vitality was analyzed with eosin-nigrosin dye. The ANOVA or Kruskal-Wallis tests followed by Tukey and Dunn's post-hoc were used for statistical analysis, $p<0.05$ were considered significant. RESULTS: The initial mean motility of the groups, measured after 3 minutes of exposure (MP: CTL=3.66±5.34, OC=3.33±5.86, K-MED=7.58±13.24, KY=4.25±7.04, p=0.96; MIS: CTL=41.21±11.12, OC=37.58±9.06, K-MED=19.50±20.24, KY=14.96±16.74, p=0.01; IM: CTL=53.71±11.69, OC=59.08±12.84, K-MED=72.92±27.39, KY=80.79±23.25, p=0.10) were compared and also motility after 4 hours of incubation (MP: CTL=1.16±1.50, OC=0.00±0.00, K-MED=0.16±0.40, KY=0.83±1.80, p=0.21; MIS: CTL=26.42±13.95, OC=25.58±18.16, K-MED=11.67±13.16, KY=12.58±13.73, p=0.98; IM: CTL=66.83±14.73, OC=74.42±18.16, K-MED=88.17±13.36, KY=87.33±13.78, p=0.06) showed no significant differences between groups. The initial vitality (Alive: CTL=20.67±16.39, OC=11.00±15.07, K-MED=18.33±9.79, KY=34.50±19.97, p=0.10) and vitality after 4 hours of exposure (Alive: CTL=15.33±8.86, OC=13.42±14.20, K-MED=7.66±4.91, KY=12.75±20.36, p=0.78) also did not show statistical differences. CONCLUSION: With a small sample size, our preliminary results were unable to show the toxic effects of lubricants on the sperm parameters analyzed. We hope to increase the number of samples analyzed to ensure that the result is correct.

Keywords: Reproduction; male fertility; sperm viability; toxicology.

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