

**Summary of the DVM thesis No. 12277, Faculty of Veterinary Medicine,  
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**Title: Effect of 3,4-dihydroxyphenylglycol on epididymal sperm quality  
following heat stress in adult male rats  
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3,4-dihydroxyphenyl glycol is considered a strong antioxidant. This antioxidant has anti-inflammatory and analgesic properties. The purpose of the present study was to reveal the role of 3, 4-dihydroxyphenylglycol on the quality of epididymal sperm following heat stress in adult male rats. In this study, 24 male rats were divided into 6 groups of 4. The rats were exposed to heat stress in a hot water bath at a temperature of 43 degrees Celsius for 29 minutes during a period of 35 days in an aquarium. Group 1: control group - is a group that was treated with nothing and was not exposed to any thermal stress. Group 2: The group that was kept at a temperature of 43 degrees Celsius for 29 minutes daily. Group 3: The group that was kept at a temperature of 43 degrees Celsius for 29 minutes daily and received 10 mg/kg of antioxidants. Group 4: The group that was kept at a temperature of 43°C for 29 minutes daily and received 40 mg/kg of antioxidants. Group 5: The group that was kept at a temperature of 43°C for 29 minutes daily and received 70 mg/kg of antioxidants. Group 6 : The group that spent 29 minutes daily at a temperature of 43 degrees Celsius and received 100 mg/kg of antioxidants. They received this antioxidant daily by gavage method to investigate the effect of antioxidant on possible infertility caused by heat stress. Rats were euthanized after a 35-day period, and experiments were performed after testes were isolated. According to the investigations, it was found that heat stress causes damage to testicles and sperm as a result of infertility. In contrast, the rats treated with 3,4-dihydroxyphenylglycol showed resistance to heat stress due to the antioxidant properties of the drug, and their sperm count and testicle volume were improved.

**Keywords:** 3,4-dihydroxyphenylglycol, sperm, rat