



Prevention of Ovarian Oxidative Stress - Related Infertility Associated with Cisplatin in Rats with Thiamine Pyrophosphate

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SUMMARY. This study investigated whether thiamine phosphate was effective in preventing infertility caused by cisplatin-associated oxidative stress in rat ovaries, in comparison with thiamine. The animals used in the experiment were divided into a control group receiving 5 mg/kg cisplatin (CISG), other two receiving 20 mg/kg thiamine pyrophosphate + 5 mg/kg cisplatin (CTPG), or 20 mg/kg thiamine + 5 mg/kg cisplatin (CTG) and a healthy (HG) group. The results of the experiment showed that infertility developed in 80% of the rats receiving cisplatin and that thiamine pyrophosphate prevented cisplatin-related infertility, whereas thiamine did not prevent it. Biochemical results in the CISG, CTG, CTPG, and HG group rat ovaries revealed that xanthine oxidase activity, malondialdehyde concentrations, NO and DNA damage products level in the ovarian tissue in the CISG and CTG groups being significantly higher than in the CTPG and HG group tissues. GSH levels in the ovarian tissue in the CISG and CTG groups were significantly lower than in the CTPG and HG group tissues. In conclusion, thiamine pyrophosphate prevented infertility caused by cisplatin-related oxidative stress, while thiamine was unable to prevent this.

KEY WORDS: Cisplatin, Infertility, Ovaries, Rat.

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