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Effects of sex steroids on serum prolactin concentration in mice with metoclopramide-induced hyperprolactinemia

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Context: The association between hyperprolactinemia and abnormalities of gynecologic endocrinology may result from distinct mechanisms found in a number of tissues. The development of experimental models capable of simulating the disorders and determining their interaction with estrogen and progesterone is essential for a better grasp of prolactin (PRL) action on such tissues. Objective: This study aimed at understanding the effects of sex steroids on serum PRL concentration in female mice with metoclopramide-induced hyperprolactinemia. Method: Fifteen oophorectomized animals were allocated to 3 groups as follows: GI (treated with metoclopramide), GII (treated with metoclopramide + 17Î²-estradiol) and GIII (treated with metoclopramide + progesterone). After 50 days of treatment the blood was collected and the serum concentration of PRL was determined by radioimmunoassay technique. Results: PRL was observed in higher concentrations in GI (407.01Â±9.27 ng/mL) and GII (409.50Â±7.11 ng/mL) compared to GIII (303.07Â±11.33) ($p<0.05$). Conclusion: The metoclopramide administration was found capable to induce hyperprolactinemia in oophorectomized female mice. Furthermore, when this drug was administered concomitantly to 17Î²-estradiol, the concentration of serum prolactin was even higher.

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