SHORT COMMUNICATION

EFFECT OF TAMOXIFEN ON BONE MINERAL DENSITY AND BLOOD LIPIDS IN OVARIECTOMIZED RATS

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Tamoxifen is widely used in breast cancer therapy and in the treatment of all stages of breast cancer including chemoprevention in women at high risk of the disease. The most important aspect of tamoxifen therapy concerns its influence on bone tissue and lipid metabolism. The aim of the study was to evaluate the effect of tamoxifen on bone metabolism and blood cholesterol levels in ovariecctomized rats. The study was performed on Wistar rats treated with tamoxifen at 2 and 4 mg/kg/24 h. Total serum cholesterol and low density cholesterol were significantly increased in ovariecctomized rats (3.24 mmol/l and 2.06 mmol/l) in comparison with sham operated control (2.68 mmol/l and 1.44 mmol/l) (p < 0.05).

Total serum cholesterol and low density cholesterol in tamoxifen-treated rats were significantly decreased in comparision with the values in both sham-operated and ovariecctomized control. Bone mineral content (BMC) and bone mineral density (BMD) of femurs of ovariecctomized rats (0.32 g and 0.081 g/cm²) decreased significantly compared to sham-operated controls (0.42 g and 0.098 g/cm²) (p < 0.05). Tamoxifen prevented the bone mass reduction induced by ovariecctomy. The treatment with tamoxifen at doses of 2 mg/kg/24 h and 4 mg/kg/24 h significantly increased BMC and BMD in comparison with ovariecctomized control. The results suggest a beneficial influence of tamoxifen on bone tissue and lipid metabolism.

Key words: tamoxifen, bone, lipid metabolism

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