

ABSTRACT

The Role of Salmon Calcitonin administration and Submaximal Intensity of Physical Exercise on the Thickness of The Epiphyseal Growth Plate on the Growing Male Mat (*Rattus norvegicus*)

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This laboratory experimental study used The Post Test Only Control Group Design and was aimed to identify the role of salmon calcitonin administration and submaximal intensity of physical exercise on thickness of epiphyseal growth plate and bone length.

Experimental animals used in this study were 6 - 8 weeks old growing male *Rattus Norvegicus* rats of Strain Wistar. Those animals were divided randomly in to 4 groups and were treated as followed: 20IU/kg body weight/subcutaneous/day NaCl 0.9% to group K₀; 20IU/kg body weight/subcutaneous/day of salmon calcitonin (Miacalcic) to group 2; submaximal intensity of physical exercise to group 3 and a combination between 20IU/kg body weight/subcutaneous/day of salmon calcitonin (Miacalcic) and submaximal intensity of physical exercise to group 4. After eight weeks, thickness of epiphyseal growth plate and bone length measured. It was found that the thickness of epiphyseal growth plate increased significantly on group 2 and 4, but there was no significant result on the group 3. In conclusion, short-term salmon calcitonin administration and combination between short-term salmon calcitonin and submaximal intensity of physical exercise has a beneficial effect on longitudinal skeletal growth.

Keywords: Epiphyseal growth plate, Salmon calcitonin, Submaximal intensity of physical exercise