The 6th Asia-Pacific Conference on Exercise and Sports Science

Caring for the Future Generation: A Holistic Approach Leading towards Health and Active Living

第六屆亞洲太平洋運動科學大會

會議手冊 Programme

Date: November 2~4, 2013

Venue: Sports Center, Chinese Culture University, Taipei, Taiwan

Website: http://apcess2013.pccu.edu.tw

The project is guided and sponsored by
Sports Administration, Ministry of Education
Ministry of Foreign Affairs
Bureau of Foreign Trade , Ministry of Economic Affairs

Programme

November 2-4, 2013

Host: Asian Council of Exercise and Sports Science (ACESS)

Organizer: Chinese Culture University

Guide:

Sports Administration, Ministry of Education

Ministry of Foreign Affairs

Bureau of Foreign Trade, Ministry of Economic Affairs

Venue: Sports Center, Chinese Culture University

Website: http://apcess2013.pccu.edu.tw

目錄

Content

The 6th Asia-Pacific Conference on Exercise and Sports Science (APCESS 2013)

Abstract Form

Date : November. 2~4, 2013

Venue : Sports Center, Chinese Culture University, Taipei, Taiwan

Exercise and Salmon Calcitonin Increase Bone Density In Growing Rat

Heru S Lesmana[1], Gadis M Sari[2], Choesnan Effendi[2], Shinta Arisanti[1]

[1]Post Graduate Sport Science Faculty of Medicine, Airlangga University, Surabaya, Indonesia

[2]Physiology Departement Faculty of Medicine, Airlangga University, Surabaya, Indonesia

Abstract

Background/Purpose: Bone is a complex tissue consists of cell and matrix. Matrix consist of fibers and ground substance that contain mineralized. Bone mineralized always increase and decrease through the remodelling process. Remodelling bone consists of two processes, bone formatted by osteoblast and bone resorption by osteoclast. Growing period is the best period to increase bone density. The research purpose was to prove exercise and calcitonin effect in the bone density and bone mass increment. **Methods:** The research method used the randomize post test only control group design. The groups consist of control, exercise, and combine (exercise+calcitonin) group. The sampel of each group is seven young males norvegicus rat (six weeks old). Exercise group swam once a day and three times a week, calsitonin group was given synthetic salmon calcitonin injection 2 IU/100gram of rat weight everyday and combine group was treated both of exercise and calcitonin injection. The treatment duration is eight weeks. Measurements of density bone was done with using ultrasound DBM SONIC 1200 (Digital Bone Measurement-emsor,SA,Madrid,spain). This instrument was issued conducting sound waves to assessment of density bone with m/sec. The research also measured mass , diameter and length of the bone. Mass bone was measured by using a analytical balance librar-shimadzu in grams. **Results:** The result was the combine had higher bone density (p=0,001) and bone mass (p=0,004) compare to other groups. **Conclusion:** The conclusion was the combination of exercise and salmon calsitonin can increase bone density and bone mass in growing rat.

Keywords: exercise, calcitonin salmon, bone density, bone mass.

Corresponding Author : Heru Syarli Lesmana

Telephone/Cell phone: 081374709252 _E-mail: herulesmana04@gmail.com