The bone mineral density in lumber spine and upper limbs in elite male soccer players in Taiwan

Chun-Rong Li, Jung-Jui Chao (National Taiwan College of Physical Education, Taiwan)
Kuen-Chang Hsieh(Research Center, Charder Electronic Co., LTD., Taiwan),
Yu-Ywan Chen (National Taiwan College of Physical Education, Taiwan),
Wu-Qin Zhu(Cheng Shiu University, Taiwan)

24 first class male soccer players, which are 20.83±1.87 years old, 173.3±5.5 cm in height and 66.73±6.00 in weight, were compared with 23 health control male subjects with similar characteristics, which are 22.2±2.23 years old, 171.5±7.2 cm in height and 64.44±9.98 in weight, to elucidate the differences in bone mineral density (BMD), which are measured by Dual energy X-ray absorptiometry (DXA). The BMD values in lumber spine (L1-L4) and upper limbs existed obviously differences between first class male soccer players and control male subjects. The greater BMD values as 7.29 % in lumber spine (L1-L4) in elite male soccer players than control male subjects, however, that of as 1.82 % in upper limbs. In conclusion, the training intensity for upper limb needs more improvement.

Keywords: elite male soccer players, bone mineral density (BMD), Dual energy X-ray absorptiometry (DXA)

The phase angle of bioelectric impedance in elite male soccer players in Taiwan

Jung-Jui Chao, Chien-Wei Liang(National Taiwan College of Physical Education, Taiwan.),
Yu-Ywan Chen(National Taiwan College of Physical Education, Taiwan.),
Kuen-Chang Hsieh(Research Center, Charder Electronic Co., LTD, Taiwan),
Cheng-Tsung Huang(National Taiwan College of Physical Education, Taiwan.)

25 first class male soccer players, which are 20.82±1.88 years old, 173.5±5.5 cm in height and 66.66±5.89 in weight, were compared with 16 health control male subjects with similar characteristics, which are 22.2±2.23 years old, 171.5±7.2 cm in height and 64.44±9.98 in weight, to elucidate the differences in physiologic status. The ambient current with 50KHz at 800 micro-amp were exerted to measure the phase angle of bioelectric impedance in every segments of whole body. The phase angle of bioelectric impedances in whole body, upper limbs and lower limbs in elite soccer players were 8.76±0.53°, 9.35±1.10°, 8.87±0.66°, respectively, and that, in health control subjects were 8.54±0.55 °, 9.19±0.89 °, 8.70±0.72 °. In summary, the greater phase angles of bioelectric impedances in elite male soccer players have implied the superior physiologic status than health control male subjects.

Keywords: elite male soccer players, bioelectric impedances, phase angles