소아재활

게시일시 및 장소 : 10 월 19 일(토) 08:30-12:30 Room G(3F)

질의응답 일시 및 장소 : 10 월 19 일(토) 11:00-11:30 Room G(3F)

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Bone mineral density and T-score discordance of adults with cerebral palsy

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Objective
To investigate the prevalence of osteoporosis and osteopenia and describe characteristics of the bone mineral density of adults with CP.

Design
Cross-sectional study.

Setting
University hospitals and communities for persons with disabilities.

Participants
A total of 87 adults with CP (52 men, mean age of 42.0±8.29 years) were included.

Method
The bone mineral density and body composition was assessed using dual-energy x-ray absorptiometry. We investigated the correlation between the bone mineral density and CP-related characteristics. The T-score discordance and its prevalence were also assessed.

Results
The prevalence of osteopenia was 42.5% (40.0% in men and 45.7% in women) and that of osteoporosis was 25.3% (30.8% in men and 17.1% in women). The mean L-spine (LS) T- and Z-score were lower in men than in women but T-score in femur neck (FN) and total femur (FT) did not show difference by sex. LS, FN, and FT T-score were negatively correlated with the Gross Motor Function Classification System (GMFCS) level but not with age, body weight and waist circumference. Non-ambulatory subjects showed lower FN (-1.4±1.5, -0.4±0.8, $p<0.001$) and LS T-score (-1.2±1.9, -0.3±1.4, $p=0.04$) than ambulatory subjects. With controlling with the GMFCS level, the body mass index (BMI) was correlated with LS, FN, and FT T-score but not with LS, FN, and FT Z-score. The percent body fat was correlated with LS, FN, and FT T-score and LS Z-score but not with FN and FT Z-score. The total fat free mass was correlated with LS T-score but not with FN and FT T-score and the total fat mass was correlated with LS, FN, and FT T-score. There

was no difference in LS, FN, and FT T-score between bilateral and unilateral CP. Major (>2SD) T-score discordance was observed in 15.0% (10.4% in men and 21.9% in women) and moderate (1-2SD) T-score discordance was observed in 33.8% (35.4% in men and 31.3% in women), which is higher than the prevalence of T-score discordance in general population.

Conclusion

Adults with CP had decreased bone mineral density. The BMD was correlated with motor function, physical activity, BMI, and percent body fat. As T-score discordance was more frequent in adults with CP than in general population, estimation of fracture probability may need more caution in adults with CP.

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