

原著論文

幼児期における足部舟状骨高と運動能力の関係

Relationship between foot navicular height and motor ability in preschool children

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Abstract

Objective: The purpose of this study was to investigate the relationship between foot navicular height and motor ability in preschool children. **Methods:** Seventy-four (42 girls and 32 boys) 4- and 5-year-old children participated in this study. Foot geometry was measured by a three-dimensional foot-measuring device (INFOOT 2). Motor ability was assessed using six activities: 25m sprint, standing broad jump, tennis ball throw, two-legged continuous jump over, body support duration, and ball catch. Their performance in each activity was rated on a 5-point scale (1–5), as outlined in a previous Japanese study. **Results and Discussion:** Foot navicular height ratio was 11.0 ± 1.1 % in the 4-year-old girls, 11.2 ± 1.3 % in the 5-year-old girls, 12.4 ± 1.4 % in the 4-year-old boys, and 12.0 ± 1.6 % in the 5-year-old boys. Foot navicular height ratio in the 4-year-old boys was significantly higher than the 4-year-old girls ($p < 0.01$). Partial correlation analysis between foot navicular height and motor ability, controlling for gender and age, showed no significant correlation. **Conclusion:** These findings suggest that foot navicular height is not related to motor ability with developmental growth and development in preschool children.

キーワード：足部舟状骨，内側縦アーチ，扁平足，足長，3次元足形計測
foot navicular bone, medial longitudinal arch, flat feet, foot length,
three-dimensional foot measuring

I. 緒 言

ヒトの足部は，身体のバランスを保ちながら立位姿勢や二足歩行を行っている。足部は，生後足部の骨の形成が完成するまでに時間を要し，

豊富な脂肪組織や靱帯弛緩のためほぼすべてが扁平足である (Müller et al., 2012 ; Chen et al., 2011 ; 近藤ほか, 2005 ; 原田ほか, 1995)。扁平足とは，内側縦アーチ構造が低下あるいは消

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