

原著論文

下腿の骨格・筋腱形態に東アフリカ地域の陸上中長距離選手特有の
特徴はあるのか

Musculoskeletal characteristics for East-African elite distance runners

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Abstract

It is believed that East-African elite distance runners (ELITE) possess the specific muscle-tendon characteristics of lower-leg as compared to Japanese and European distance runners. This study was to examine the specificity of the musculoskeletal characteristics for ELITE by comparing the musculoskeletal characteristics of lower-leg between ELITE and other East-African runners as well as general public. Three East-African groups (ELITE: n=18, Trained runners (RUNNERS) : n=34, control general adult males (CTRL) n=34) were recruited. Their Achilles tendon length, its cross-sectional area (CSA) and its moment arm as well as the medial gastrocnemius fascicle length were measured by ultrasonography. The results clearly showed that the Achilles tendon length, its moment arm and the fascicle length did not show any significant differences between groups, respectively. However, Achilles tendon CSA was significantly greater in CTRL than in ELITE and RUNNERS. These results suggest that the musculoskeletal characteristics of lower-leg for ELITE except for Achilles tendon CSA were the racial characteristics of East-Africa area rather than the results of the training adaptation.

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