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Gait oscillation during gait and stair stepping in patients after TKA

Some gait abnormalities persist for a long time after total knee arthroplasty. The goal of this analysis was to assess gait oscillation during gait and stair stepping in patients after TKA. Fifteen patients diagnosed with knee osteoarthritis were treated with unilateral TKA. For prosthesis, we used Bi-surface KU5 with cementation for all. We examined acceleration (anterior, TKA side and contralateral side direction) and gait barycentric factors (single-support phase and ratio of the center of gravity maximum values) between gait and stair stepping. Acceleration to the anterior direction in the sacral region and the dorsal vertebral region

increased more at stair-up than at gait or stair-down. There was no significant difference between acceleration to TKA side direction or to contralateral direction at gait and stair-up and down. The single-support phase was close to 1. In comparison with the contralateral side, the load was equal on the TKA side at gait and stair stepping. In addition, it was more obvious during stair stepping than gait. The ratio of the center of gravity maximum values increased more at the sacral region than at the dorsal vertebral region. We considered that gait oscillation was less at the dorsal vertebral region than at the sacral region.

Biography

Takatomo Mine has received his bachelor degree from Yamaguchi University School of Medicine. He obtained PhD in Medical Science degree at Yamaguchi University School of Medicine. He is currently an Associate Professor in the Department of Orthopedic Surgery, Yamaguchi University. He is the Director of Orthopedic Surgery & Rheumatology at Kanmon Medical Center, Yamaguchi and also a member of various associations: Japanese Orthopedic Association(1985), The Central Japan Association of Orthopedic Surgery & Traumatology(1985), International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine(2014), Japanese Society for Regenerative Medicine(2015), Japanese Society for Cartilage Metabolism(2017) and many other. He has published 35 articles in various International Journals in the field of Orthopedics.

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