

Muscle inflammation susceptibility predicts THA recovery

May 12 2015



(HealthDay)—Muscle inflammation susceptibility (MuIS) status seems to be able to predict recovery after total hip arthroplasty (THA), according to research published in the April 15 issue of the *American Journal of Physiology, Endocrinology and Metabolism*.

Marcas M. Bamman, Ph.D., from the University of Alabama at Birmingham, and colleagues presented the results of two integrated studies to examine local MuIS as a factor in poor recovery and long-term mobility impairment after THA. In study 1 they compared [muscle inflammation](#) and protein metabolism signaling in elective THA (15 [patients](#)) versus hip fracture/trauma (11 patients) versus nonsurgical controls (19 patients). In study 2 they compared two subgroups of patients who were characterized as MuIS⁽⁺⁾ or MuIS⁽⁻⁾ based on muscle expression of tumor necrosis factor-like weak inducer of apoptosis receptor.

The researchers found that there was overt systemic and local muscle inflammation and hypermetabolism in patients with hip fracture/trauma. In elective THA patients there was no [systemic inflammation](#). Compared with MuIS⁽⁻⁾ patients, in MuIS⁽⁺⁾ patients there was profound local muscle inflammation in the perioperative limb, which was accompanied by suppressed muscle protein synthesis. In MuIS⁽⁺⁾ patients, muscle from the contralateral limb was unaffected.

"We suggest MuIS status assessed at the time of surgery may be a useful prognostic index for muscle recovery potential and could therefore provide the basis for a personalized approach to postsurgery rehabilitation," the authors write.

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Citation: Muscle inflammation susceptibility predicts THA recovery (2015, May 12) retrieved 5 May 2024 from <https://medicalxpress.com/news/2015-05-muscle-inflammation-susceptibility-tha-recovery.html>

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