

Levels of biomarkers after ACL surgery may signal severity of osteoarthritis later in life

March 19 2017

A majority of Anterior Cruciate Ligament (ACL) reconstruction patients develop a condition known as posttraumatic osteoarthritis (PTOA) within 15 years of surgery, which can be debilitating and limit activity. Researchers presenting their work at the American Orthopaedic Society for Sports Medicine's (AOSSM) Specialty Day in San Diego are highlighting how a set of biomarkers on the day of surgery may explain why some individuals have worse PTOA than others after two years.

"Previous studies demonstrated how ACL injury triggers a [biochemical process](#) that worsens after the first 4-6 weeks of injury. Our research notes that higher levels of collagen breakdown at the time of surgery, may correlate to worse outcomes at two years," said lead author of the study, Christian Lattermann, MD of the University of Kentucky.

Lattermann and his colleagues studied 18 patients (9 females and 9 males ranging in age from 14 - 32 years) with an ACL injury. These individuals were previously enrolled in a [prospective randomized trial](#) evaluating early anti-inflammatory treatment after ACL injury. As part of the initial trial, synovial, serum, and urinary biomarkers of chondrodegeneration and inflammation were collected on the day of the surgery. The researchers utilized a variety of outcomes measures, including the KOOS-QOL scores to analyze results.

"Our data strongly suggests that initial biochemical changes after [injury](#) may have powerful consequences that cannot be mitigated by surgical stabilization alone," notes Lattermann. "These results also create an

opportunity to learn more about how early interventions with anti-inflammatory medications, may help lessen osteoarthritis risks in ACL patients, especially those patients with high levels of a particular biomarker."

Provided by American Orthopaedic Society for Sports Medicine

Citation: Levels of biomarkers after ACL surgery may signal severity of osteoarthritis later in life (2017, March 19) retrieved 20 March 2024 from

<https://medicalxpress.com/news/2017-03-biomarkers-acl-surgery-severity-osteoarthritis.html>

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