

Early Results Provide a Step Up in the Climb to Improve the Prognosis and Treatment of Osteoarthritis

The Biomarkers Consortium, a public-private partnership managed by the Foundation for the National Institutes of Health (FNIH), announced significant progress is being made in the FNIH Osteoarthritis (OA) Biomarkers Project which seeks to improve clinical outcomes for nearly 30 million people in the US living with OA of the knee and for those at risk for developing the disease. The OA Biomarkers Project is being led by two world-renowned scientists from OARSI, Dr. David Hunter at the University of Sydney and Dr. Virginia Byers Kraus at Duke University. The Biomarkers Consortium combines expertise from the National Institutes of Health (NIH), the Food and Drug Administration (FDA), biotech and pharmaceutical companies, academia, and disease-focused non-profit organizations

The FNIH study seeks to evaluate multiple imaging and biochemical biomarkers in hopes of finding more precise ways to measure both the progression of the disease and, potentially, the effectiveness of new treatments. Initial results from quantitative magnetic resonance imaging (qMRI) of femur, tibia and patella periarticular bone area, 3-D bone shape and joint space width show significant differences between patients with progressive OA and non-progressing controls at early study timepoints (baseline to 24 months) and are predictive of clinical OA progression in the knee over 48 months. This is the first report of changes of defined biomarkers of bone shape being predictive of OA progression and highlights their superior ability to measure early and subtle changes in OA progression compared to traditional radiographic measures. This work was presented at the Osteoarthritis Research Society International (OARSI) World Congress in Philadelphia in April 2013.

The project, now into its second year, continues on an aggressive pace to explore additional quantitative and semi-quantitative image assessments of bone and cartilage changes in the knee joint by mid-2013. In addition, testing has begun on 12 biochemical markers using serum and urine from the study cohort to assess joint tissue metabolism. These biochemical markers can also provide a direct measure of drug effect and mechanism of action to help better tailor personalized therapies for OA treatment. The biomarkers being analyzed in the FNIH study were selected after a series of meetings sponsored by OARSI, the leading professional society in this field.

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