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IN BRIEF

RHEUMATOID ARTHRITIS

Early changes in MRI findings predict progression of damage

In methotrexate-naïve patients with rheumatoid arthritis (RA) ($n = 256$) enrolled in the GO-BEFORE trial of golimumab, MRI findings at baseline and within the first 24 weeks were predictive of radiographic progression at 1 year. MRI scans of wrists and hands were taken at 0, 12 and 24 weeks, as well as after 1 and 2 years, and scored using the RAMRIS system. Baseline synovitis and bone oedema scores, and changes therein over the first 24 weeks, were compared with radiographic and MRI progression at 1 and 2 years of follow-up. High baseline levels and poor early improvements in both synovitis and oedema were significant independent predictors of 1-year radiographic progression. Incorporating these measures into regression models also improved the prediction of 1-year radiographic outcome, compared with assessment of clinical disease activity alone. Some of the associations remained significant at 2 years.

Original article Baker, J. F. *et al.* Early MRI measures independently predict 1-year and 2-year radiographic progression in rheumatoid arthritis: secondary analysis from a large clinical trial. *Ann. Rheum. Dis.* doi:10.1136/annrheumdis-2013-203444

OSTEOARTHRITIS

Loss of cartilage in least active and most active patients

Early degenerative changes in the knee cartilage of people aged 45–60 years without symptoms of osteoarthritis are greatest in those who exercise more or less than average. 205 participants in the normal and incidence cohorts of the Osteoarthritis Initiative, who had Kellgren–Lawrence scores <2 at baseline, had their cartilage T2 relaxation times assessed by MRI after 2 and 4 years. Greater T2 progression—denoting increased damage—occurred in various knee compartments in those who scored in the highest tertile or lowest 15% of results from the Physical Activity Scale for the Elderly questionnaire, compared with the middle tertile (and adjusted for age, sex and BMI). Activity scores were obtained annually for 4 years. All tertiles showed T2 progression during the study, suggesting that biochemical degeneration of the cartilage matrix accelerates over time.

Original article Lin, W. *et al.* Physical activity in relation to knee cartilage T2 progression measured with 3T MRI over a period of 4 years: data from the Osteoarthritis Initiative. *Osteoarthritis Cartilage* doi:10.1016/j.joca.2013.06.022

RISK FACTORS

Parity in young women associates with ACPA-negative RA

A case–control analysis, using data from a Swedish epidemiological study, investigating the relationship between parity and the risk of developing either of the two main subtypes of rheumatoid arthritis (RA) has identified a link with anticitrullinated protein antibody (ACPA)-negative RA. The increased risk applied to women aged 18–44 years (OR compared with nulliparous women 2.1, 95% CI 1.4–3.2) but not those aged 45–70 years, and was greatest in those who gave birth in the same year as onset of RA symptoms. Mothers aged <23 years at first birth were at higher risk of ACPA-negative RA than participants who were older, whereas the risk of ACPA-positive RA was not associated with parity. Biological explanations for these associations are lacking.

Original article Orellana, C. *et al.* Parity and the risk of developing rheumatoid arthritis: results from the Swedish Epidemiological Investigation of Rheumatoid Arthritis study. *Ann. Rheum. Dis.* doi:10.1136/annrheumdis-2013-203567