

IN BRIEF

RHEUMATOID ARTHRITIS

Findings from a Swedish population-based case-control study, which included 577 incident rheumatoid arthritis (RA) cases and 659 randomly assigned controls (all men aged 18–70 years) found that current smokers exposed to silica were at an increased risk of developing RA with antibodies against citrullinated peptide antigens (ACPA). Silica exposure was defined as exposure to stone dust, rock drilling or stone crushing. This increase in risk was greater than would be expected from combining the separate increases attributable to silica exposure and current smoking, which suggests the presence of an interaction between these exposures in the etiology of ACPA-positive RA.

Original article Stolt, P. *et al.* Silica exposure among male current smokers is associated with a high risk of developing ACPA positive rheumatoid arthritis. *Ann. Rheum. Dis.* doi:10.1136/ard.2009.114694

Results of a randomized controlled trial suggest that treatment with the pegylated tumor necrosis factor blocker certolizumab pegol (400 mg or 200 mg subcutaneously) plus methotrexate every other week in patients with RA is associated with improvements in health-related quality of life, fatigue and other patient-reported outcomes. Compared with patients who received placebo plus methotrexate, improvements in health-related quality of life, fatigue, global assessment of disease activity, physical function, mental health and vitality were observed as early as 12 weeks into treatment; these improvements were sustained at the end of the first year of treatment.

Original article Strand, V. *et al.* Rapid and sustained improvements in health-related quality of life, fatigue, and other patient-reported outcomes in rheumatoid arthritis patients treated with certolizumab pegol plus methotrexate over 1 year: results from the RAPID 1 randomized controlled trial. *Arthritis Res. Ther.* 11, R170 (2009)

OSTEOARTHRITIS

A Japanese group has developed and successfully tested a novel mesenchymal stem cell (MSC) delivery system for repairing degenerated human cartilage in an *in vitro* study. Magnetically labeled MSCs were injected into tissue culture flasks containing degenerated cartilage fixed to the side wall, and a magnetic force was applied in the direction of the osteochondral fragments for 6 h. The cartilage was then cultured in chondrogenic differentiation medium for 3 weeks. Staining showed that a cell layer containing extracellular matrix was formed on the degenerated cartilage; in control specimens, in which no magnetic field was applied, this cell layer was not present. This delivery system could lead to the development of a new treatment option for osteoarthritis.

Original article Kobayashi, T. *et al.* Augmentation of degenerated human cartilage *in vitro* using magnetically labeled mesenchymal stem cells and an external magnetic device. *Arthroscopy* 25, 1435–1441 (2009)