

function, this genotype would appear to have relevance to disability in JRA. There was also a possible association of the homozygous transforming growth factor- β 25C/G genotype with a greater risk of short-term radiologic damage (joint-space narrowing within 2 years) compared with the 25G/G genotype, although confidence ratios were wide.

Cytokine genotype and outcome correlations need to be confirmed in a larger patient cohort, but these results suggest that polymorphisms in cytokine genes might prove to be useful early prognostic indicators in JRA.

Carol Lovegrove

Original article Oen K *et al.* (2005) Cytokine genotypes correlate with pain and radiologically defined joint damage in patients with juvenile rheumatoid arthritis. *Rheumatology* 44: 1115–1121

Low-field dedicated-extremity MRI in rheumatoid arthritis

Treatment for rheumatoid arthritis (RA) aims to suppress joint inflammation in order to prevent structural damage and functional disability as early as possible in the course of the disease. To do this effectively there is a need for sensitive and specific detection techniques for early diagnosis and for monitoring disease progression.

Low-field dedicated-extremity MRI units have potential advantages over conventional MRI units but are largely unvalidated. In this study, 37 patients with RA and 28 healthy controls underwent clinical assessment and conventional radiography before MRI scanning of the wrist and 2nd–5th metacarpophalangeal joints using conventional and low-field dedicated-extremity MRI units on two consecutive days. The sensitivity, specificity and accuracy of low-field 3D gradient echo MRI for erosions were high relative to high-field, spin echo MRI (94%, 93% and 95%, respectively); the corresponding values for radiography were 33%, 98% and 83%, respectively. Results of low-field MRI were equally high for synovitis (90%, 96% and 94%, respectively). Although specificity and accuracy were also high for bone marrow edema (99% and 95%, respectively), sensitivity was only moderate (39%).

Low-field dedicated-extremity MRI is therefore as effective as high-field MRI for detecting and grading erosions and synovitis, and offers

potential advantages with regard to patient comfort and compliance, and unit cost.

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Original article Ejbjerg B J *et al.* (2005) Optimized, low cost, low field dedicated extremity MRI is highly specific and sensitive for synovitis and bone erosions in rheumatoid arthritis wrist and finger joints: comparison with conventional high field MRI and radiography. *Ann Rheum Dis* 64: 1280–1287

Nifedipine improves myocardial perfusion and function in systemic sclerosis

Cardiovascular analysis using highly sensitive and quantitative techniques shows that 14 days of treatment with nifedipine simultaneously improves myocardial perfusion and regional function in patients with systemic sclerosis (SSc).

Cardiovascular MRI and tissue Doppler echocardiography are recently developed techniques that have been shown to be more sensitive than conventional methods for the evaluation of myocardial perfusion and contractility, respectively. In this study they were used to evaluate myocardial perfusion and function in 18 patients with SSc without clinical heart failure and with normal pulmonary artery pressure. Patients were assessed at baseline, after a 72-hour wash-out period and after 14 days of treatment with oral nifedipine 60 mg/day. Results showed a significant increase in MRI perfusion index (mean 0.26 versus 0.19 at baseline, $P=0.0003$) and in systolic and diastolic strain rate (2.3 s^{-1} versus 1.5 s^{-1} at baseline, $P=0.0002$; and 4.2 versus 3.0 at baseline, $P=0.0003$) following 14 days of nifedipine.

The authors caution that these results should be considered as preliminary and that the long-term benefits of nifedipine in this setting are unknown; however, these findings confirm previous data and highlight the beneficial microvascular and cardiac effects of nifedipine, demonstrating that short-term (14 days) treatment has a marked beneficial effect on myocardial perfusion and function in patients with SSc.

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Original article Vignaux O *et al.* (2005) Evaluation of the effect of nifedipine upon myocardial perfusion and contractility using cardiac magnetic resonance imaging and tissue Doppler echocardiography in systemic sclerosis. *Ann Rheum Dis* 64: 1268–1273