events should be interpreted in light of the high effectiveness of anti-TNF therapy for treating RA.

Original article Bongartz T *et al.* (2006) Anti-TNF antibody therapy in rheumatoid arthritis and the risk of serious infections and malignancies: systematic review and meta-analysis of rare harmful effects in randomized clinical trials. *JAMA* **295:** 2275–2285

Pain and depression cause fatigue in patients with RA

Fatigue is a common complaint of patients with active rheumatoid arthritis (RA), and it is well-known that treatment with anti-tumor necrosis factor (anti-TNF) agents or disease-modifying antirheumatic drugs (DMARDs) can reduce RA patients' fatigue levels. The results of two studies by Pollard *et al*. have now shown that the improvements in fatigue that occur with RA therapy depend on improvements in patients' levels of pain and depression, rather than on reductions in disease activity. These results suggest that RA-related fatigue is centrally mediated; the authors speculate that improvements in pain and fatigue reflect interactions between RA therapies and sensory neurons.

The authors performed two cross-sectional studies comprising 238 and 274 patients with RA, respectively. Most patients (81% and 84%) reported clinically relevant fatigue. Regardless of which assessment tools were used to measure fatigue and mental health, the authors found consistent, strong associations between fatigue and pain, and between fatigue and depression.

Fatigue decreased with RA treatment: of the 30 patients who started and maintained anti-TNF therapy over 3 months, and to a lesser extent the 54 who started and continued DMARDs over 6 months, the proportion who reported high fatigue levels fell dramatically (from 87% to 50% with anti-TNF therapy and from 63% to 48% with DMARDs). This effect of RA treatment on fatigue was found to be mainly attributable to improvements in pain; multiple regression analysis indicated that the observed correlation between fatigue levels and disease activity was secondary to the relationship with pain.

Original article Pollard LC *et al.* (2006) Fatigue in rheumatoid arthritis reflects pain, not disease activity. *Rheumatology* **45:** 885–889

Two autoantibodies indicate different thrombocytopenia phenotypes

A common mechanism of thrombocytopenia in systemic lupus erythematosus (SLE) is believed to be increased platelet clearance by autoantibodies. Autoantibodies to two platelet-specific antigens—thrombopoietin receptor (TPOR) and glycoprotein IIb/IIIa (GPIIb/IIIa)—have been implicated in SLE-associated thrombocytopenia. Kuwana *et al.* have conducted a new study that explored the roles of these two autoantibodies.

The study included 32 SLE patients with thrombocytopenia, 30 SLE patients who had never been thrombocytopenic, 92 patients with idiopathic thrombocytopenia, and 60 healthy individuals. All patients were tested for autoantibodies to TPOR and GPIIb/IIIa, and the megakaryocyte density of the bone marrow of patients with thrombocytopenia was also evaluated. Laboratory tests showed that autoantibodies to both TPOR and GPIIb/IIIa were significantly more common in patients with thrombocytopenia than in patients without ($P<0.0001$ and $P=0.01$, respectively); levels did not differ between SLE patients with thrombocytopenia and patients with idiopathic thrombocytopenia. Overall, 91% of the SLE patients with thrombocytopenia had at least one of the two autoantibodies.

Autoantibodies to TPOR and GPIIb/IIIa were associated with different phenotypes of thrombocytopenia: SLE patients with autoantibodies to TPOR showed megakaryocytic hypoplasia and a worse response to treatment than SLE patients with autoantibodies to GPIIb/IIIa, who showed normal or high megakaryocyte density.

The authors suggest that tests for these autoantibodies might be useful to distinguish between subsets of patients with SLE-related thrombocytopenia, and could help predict their responses to therapy.

Original article Kuwana M *et al.* (2006) Two types of autoantibody-mediated thrombocytopenia in patients with systemic lupus erythematosus. *Rheumatology* **45:** 851–854

High cholesterol level is a risk factor for poor outcomes in SLE

Clinical studies have shown that dyslipidemia predicts renal deterioration. Renal problems and dyslipidemia are both commonly seen in