An audit of recording cardiovascular risk factors in patients with rheumatoid arthritis and systemic lupus erythematosus in centres in East Anglia and the South East

Sir, RA and SLE are known to be associated with a substantially increased risk of cardiovascular disease, with complex interactions between traditional and disease-related risk factors. As a prelude to implementing changes in cardiovascular risk management, seven centres which contribute to the East Anglian Rheumatology Society collaborated in an audit of existing cardiovascular risk reduction practice in patients with RA and SLE by assessing:

(i) the efficiency of recording risk factors and  
(ii) the frequency of patients with unmodified risk.

The records of 100 RA patients and 65 SLE patients across seven centres in East Anglia and the South East were audited. For each patient, an index visit prior to May 2005 was identified (in order to ensure that practice assessed was that prevalent prior to implementing new initiatives). Records from all specialties, including electronic records/results, were examined to assess whether the following information had been recorded at any time in the preceding year:

- Blood pressure
- Random total cholesterol
- Either random or fasting blood glucose, or HbA1c, or urinalysis
- Current corticosteroids equating to >7.5 mg prednisolone
- History of corticosteroids for >6 months.

Records of the following risk factors were sought in paper and electronic records over the preceding 5 yrs:

- Smoking history
- Family history of premature cardiovascular disease (first degree relatives: males <55 yrs, females <65 yrs)
- Coronary heart disease (CHD)
- Diabetes mellitus
- Stroke
- Transient ischaemic attack (TIA)
- Peripheral vascular disease (PVD)
- Aortic aneurysm
- Carotid artery occlusion (>50%).

Note that, for the historical fields (e.g. diabetes mellitus), a record is defined as documentation indicating either the presence or absence of a history of the relevant condition. A record of fields elicited by examination or investigation (e.g. blood pressure or total cholesterol, respectively) is defined as documentation of the results of the relevant examination or investigation. Figure 1a displays the percentage of patients in whom the risk factors were recorded, according to the criteria specified above.

From the data recorded, the proportion of patients with unmodified risk was calculated for modifiable risk factors (hyperglycaemia, hypercholesterolaemia, hypertension, current corticosteroid usage and smoking) (Fig. 1b). Unmodified risk was defined as a value of categorical or continuous variable (e.g. current smoking or blood pressure (BP) >140 mmHg, respectively) which is associated with increased cardiovascular risk. Hyperglycaemia was defined as either random blood glucose >10.0 mmol/l or fasting blood glucose >6.7 mmol/l or HbA1c >6.3% or glycosuria on urinalysis. Hypercholesterolaemia was defined as a total cholesterol >5.2 mmol/l. Hypertension was defined as either a systolic BP ≥140 mmHg and/or a diastolic BP ≥85 mmHg. Current corticosteroid usage >7.5 mg prednisolone (or equivalent) was recorded as an unmodified risk factor. The use of this threshold dose is, to some extent, arbitrary. Cardiovascular risk may be increased, even by low doses of corticosteroids [1]. However, risk increases with cumulative corticosteroid exposure and low-dose corticosteroids are frequently prescribed for their disease-modifying effects in the joints [2]. The dose threshold below which the patient derives net benefit therefore remains unclear. Smoking, at any level, was considered a modifiable risk factor. Wherever several records exist for a given field over a 5-yr period, data from the most recent record were used for the audit.

Figure 1a indicates that a substantial proportion of patients have no secondary care record of cardiovascular risk factors,
despite the inclusion of electronic and paper records from all specialties. Figure 1b demonstrates that, where modifiable risk factors have been recorded, a substantial proportion of patients have unmodified risk. This is based on the numbers of patients indicated in the figure.

A multi-centre prospective study in the western part of the region was running concurrently to assess the burden of unmodified cardiovascular risk in RA. This study assessed clinical cardiovascular risk factors in consecutive outpatients with RA over a year in seven rheumatology units. At least one clinical cardiovascular risk factor was recorded in 146/337 (44%) patients. CHD was present in 8% patients, 21% had PVD, 5% had cerebrovascular disease and 7.4% had diabetes mellitus; these patients all have a high (>20%) 10-yr risk of a further cardiovascular event. In addition, 62% of RA patients were prescribed lipid-lowering medication, 34% were prescribed antihypertensive medication, 28% were current smokers, 50% had a BMI >25 and 9% had inadequately managed hypothyroidism. This study did not assess lipid profiles or blood pressure, so the efficacy of these therapies is unknown in this group.

This multi-centre audit suggests that cardiovascular risk is inadequately managed in patients with RA and SLE, despite appreciation that these conditions are associated with an increased burden of cardiovascular disease. This may reflect the complexity of managing chronic multisystem disease within limited consultation times. A North American study suggests that management of comorbidity by specialists is superior to generalists; however, both are suboptimal [3]. The General Medical Services contract highlights the importance of considering cardiovascular risk in individuals with hyperlipidaemia, diabetes mellitus or of ≥40 yrs. Corrections are suggested for smokers and for individuals with a family history of premature cardiovascular disease, with impaired glucose tolerance or with Indian subcontinent ancestry. However, no corrections are currently advised for individuals with RA or SLE. It is important to note that the retrospective East Anglian Rheumatology Society audit reported here is likely to underestimate attention to risk factors, since the outcome of verbal enquiries regarding history of established vascular disease, smoking, etc. may not have been recorded, especially if negative. However, examination of data for modifiable risk factors from both the retrospective audit and the concurrent prospective study suggest a substantial burden of inadequately managed cardiovascular risk.

Therefore, although cardiovascular risk factors are generally assessed and managed in primary care, the increased risks associated with RA and SLE are rarely considered. The complexity of these diseases is likely to further reduce the probability of a thorough cardiovascular risk assessment. It is important that rheumatology specialists highlight the need for vigorous cardiovascular risk reduction and provide guidance for primary care practitioners. We have previously proposed an algorithm for managing cardiovascular risk in patients with RA and SLE [4], available online at http://www.medschl.cam.ac.uk/medtools/chd1.php. In this algorithm, patients are stratified into high-, medium- and low-risk groups and targets for blood pressure and fasting LDL cholesterol concentration are set for each risk group.
Inevitably, a number of obstacles are likely to impede the ability of rheumatology teams to reduce cardiovascular risk in RA and SLE patients. The elevated cardiovascular morbidity and mortality in patients with RA and SLE is still not widely recognized in primary and secondary care. Limitation of clinic time and information technology, together with a lack of strategic clarity each hinder implementation of effective cardiovascular risk reduction. Many rheumatology departments have or are developing annual assessments for patients with RA. We advocate that a cardiovascular risk assessment, such as that offered by the algorithm above, be included in such schemes for both RA and SLE patients. Furthermore, we believe that cardiovascular risk reduction would most effectively be embedded in an integrated care pathway, which is implemented collaboratively by primary and secondary health care teams.

Disclosure statement: F.C.H. has declared that Actelion funded interest.

Acknowledgement

The authors would like to thank Catherine Molyneaux for assistance with data collection.

Sir, With any new therapy uncommon or long-term adverse events will not be identified by randomized controlled trials. Post-marketing reporting of suspected adverse events is therefore essential. We report two cases, where a new diagnosis of acute psychosis was made in patients receiving anti-TNF therapy.

A 53-year-old gentleman with a 17-year history of psoriatic arthritis, secondary AA amyloidosis and chronic renal failure requiring peritoneal dialysis was established on etanercept in 2003. During a recent admission due to dialysis complications, his primary problem was noted to be the development of an acute paranoid psychosis. Prior to this event, there was no history of psychotic illness. An MRI scan revealed changes consistent with small vessel ischaemia, with no evidence of cerebral amyloid deposition. Etanercept was discontinued for a short period of time, but re-introduced when intercurrent infection was excluded. Olanzapine was commenced. Following a further decline in mental health, etanercept has been withdrawn indefinitely.

A 52-yr-old female with a past medical history of chronic obstructive pulmonary disease (COPD) and migraine was diagnosed with RA at the age of 46 yrs. Conventional treatment with six different DMARDs failed and she was commenced on etanercept in 2003. This led to a marked improvement in symptoms. The medication was well tolerated, except for one episode of sepsis, until July 2006. At this time she developed an acute psychosis associated with visual and auditory hallucinations, with strong religious overtones. There is no personal or family history of psychiatric illness. A CT of brain revealed no abnormality. While no organic cause has been found to explain her psychosis, no formal psychiatric diagnosis has been made to date. Etanercept was discontinued and risperidone commenced. Her psychiatric symptoms have improved but her RA has flared. Etanercept was recently restarted with no immediate complications. She remains under psychiatric review.

Psychosis is a disorder resulting in personality distortion, construction of false environments, delusions and hallucinations, in which the patient lacks insight.

Predisposing factors to developing a psychotic illness include genetics, prenatal and perinatal factors, abnormal pre-morbid personalities and drug use (e.g. amphetamines, morphine, steroids, etc.). However, previous observational studies have shown that patients with RA are at a decreased risk of developing illnesses such as schizophrenia [1, 2]. A variety of studies have shown that TNF-α is a mediator of neonatal [3, 4] and post-traumatic brain injury [5, 6]. It could therefore be hypothesized that inhibition of TNF-α would reduce excitotoxic brain injury. However, study results are mixed with some showing benefit with attenuation of damage [4, 7], while others have shown increased hippocampal damage [3].

Anti-TNF therapy has numerous well-recognized adverse events, such as infection and malignancy. Toxicity to the central nervous system in the form of demyelination is also documented; however, there is very little in the literature pertaining to psychiatric side-effects. To date there is one reported case of infliximab-associated panic attacks, which ultimately resulted in a suicide attempt [8]. The patients’ past psychiatric history was not documented.

A third patient also developed symptoms but declined consent to publish. No pre-existing risk factors were identified in Cases One and Two. The emergence of an acute psychosis in all cases could have been coincidental. However no organic pathology was