Speaker abstracts 2001

Validity of diagnostic tools – Wednesday
13 June, 14.00-16.00/Congress Hall**SP0001 SENSE AND NONSENSE IN THE DIAGNOSTIC
PROCEDURES OF EARLY RHEUMATOID ARTHRITIS**

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10.1136/annrheumdis-2001.1

Early arthritis clinics will consist of a very heterogeneous group of arthritis patients, both as to their initial clinical presentation as to their outcome. Dependent on the way patients have been selected, about one third of the patients has a disease that may ultimately be classified as rheumatoid arthritis (RA), one third will have another classifiable inflammatory rheumatic disorder and one third of the patients remains unclassified.

The diagnosis or classification of RA is based on the presence of a distinct clinical entity that needs a certain amount of time to develop. The classification criteria for RA are therefore not very suitable for early diagnosis. In addition, there is a certain circularity in using the ACR criteria as gold standard to diagnose RA early in the disease course. The essence of RA diagnosis or RA classification is the presence of a persistent and destructive polyarthritis. In early arthritis we are not dealing with an already existing disease entity that can be classified as RA, but we are confronted with a very heterogeneous patient population. At that stage we would like to predict which patients will have a self-limiting arthritis, a persistent non-erosive arthritis or a persistent erosive arthritis. At present Ig-M rheumatoid factor (RF) appears to be the most powerful single predictor of persistent erosive arthritis. Apart from genetic markers, many clinical and laboratory parameters at the beginning of the disease have been found more or less predictive of severe erosive arthritis, including active polyarthritis, high scores of disease activity measurements, involvement of at least two large joints, different serological markers such as the anti-perinuclear factor (APF) and anti-citrulline antibodies (Anti-CCP, "AKA"), initial HAQ score and initial radiological score. None of these variables is powerful enough though, to predict the presence of persistent erosive arthritis as a single predictor. Analysis of the Leiden Early Arthritis Cohort data showed that, looking at all potentially predictive determinants obtained from patient history, physical examination, serological and genetic markers, an optimal criteria set of 7 variables consisting of symptom duration, morning stiffness >1 h, arthritis of 3 or more joints, bilateral compression pain of metatarsophalangeal joints, RF positivity, anti-cyclic citrullinated peptide antibody positivity and the presence of erosions could successfully discriminate between self-limiting, persistent non-erosive and erosive arthritis. The predictive model could be simplified to provide predictive probabilities at the individual patient level. The overall diagnostic/prognostic performance of the 1987 ACR classification criteria was significantly lower than the criteria set described above. The utility of (a combination of) diagnostic/predictive parameters has to be judged against the background of the patient population in which the criteria have been developed.

**SP0004 HOW TO MEASURE AND PREDICT THE IMPACT OF
RHEUMATOID ARTHRITIS**

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10.1136/annrheumdis-2001.2

Rheumatoid arthritis (RA) is a chronic disease with severity and consequences varying from one patient to another, and potential impact on individual, family and society over the long term.

The impact can be defined as the various outcomes beyond the patho-physiological disease process. The components of the impact of RA comprise of joint damage, functional disability, impairment of quality of life in several dimensions and socio-economic consequences, like work disability, social participation restriction, and economic costs. These consequences should be analysed in the frame of the recent revision of the international classification of impairment, disability and handicap (ICIDH-2). This model will help understand the mechanisms of resistance to and limitation of the impact of the disease.

The measurement of such outcomes has largely benefited of research focused on this particular disease in the past two decades. A reliable measure is necessary to assess the impact, and to document the progression of impact over time. Outcome measures should be sensitive to natural changes or therapy effects over the disease progression.

- Radiographic lesions are now well documented by increasingly accurate and standardised assessment scoring methods of joint damage.

- Self-assessment questionnaire of functional disability has now its standard, the HAQ, with some variants, primarily developed and documented in RA.

- Health-related quality of life measures have been an exploding area of methodology and research development in the recent years, making generic and RA specific instruments like the AIMS2, or the AIMS2 Short Form valid and easily accessible in clinical practice.

- Socio-economic consequences are less documented. Several studies have examined and quantified the amount of work disability the frequency of which varies by country. Recent analysis of the EURIDISS cohort study has examined the social network changes and the influence of social support provided to patients. The direct and indirect costs of RA have been well documented in some country and appear substantial.

The prediction of outcome by a simple equation modelling outcome as a function of measurable predictors would be ideal for monitoring patient therapy from the very start of the disease. Unfortunately, despite extensive studies looking at large numbers of patients, a part of individual variation and the irregular progression over time still challenges the search for an accurate group of predictors. It is readily possible to obtain a reasonable probability estimate of outcomes from a consensual set of determinants that will be reviewed. But it is not yet possible to monitor individual patient with sufficient accuracy, with the exception of a few outcomes using mathematical models demanding intensive data collection.

In an epidemiological perspective, longitudinal observational studies are the standard to determine such predictors. They can be conducted retrospectively, with the risk of selection and measurement bias, or prospectively, at the cost of study duration and loss to follow-up. The identified determinants of radiographic damage and of functional disability will be reviewed, while the prognostic factors of quality of life have been less frequently

documented over time. Determinants of health care resources utilisation and of cost of illness are being investigated.

A better knowledge of predictors of RA impact, if modifiable by a medical or a social intervention, helps decrease the severity of the condition, decrease the frequency of deleterious consequences, increase patients quality of life and reduce costs to society. An investigation of societal and economic aspects of the disease impact is still needed over the long term. Condition for impact prediction may well change with the RA condition recently entering a new therapeutic era.

Cardiovascular complications in R. D. – Thursday 14 June, 16.00-17.30/Congress Hall

SP0042 ENDOTHELIAL ACTIVATION IN INFLAMMATION AND ATHEROSCLEROSIS

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10.1136/annrheumdis-2001.3

Endothelial activation is an integral component of inflammatory rheumatic diseases, and also of atherosclerosis. Leukocytes emigrate from the blood into inflamed tissues through a series of adhesion events ("the adhesion cascade"), each of which is dependent upon the state of endothelial cell activation. Initial rolling of neutrophils on vascular endothelium is mediated by transient interactions between selectins (L-selectin on leukocytes, E-selectin on cytokine-activated endothelial cells (EC) and P-selectin on both activated EC and activated platelets) and carbohydrate-bearing counter-structures on the opposing cell. Whilst rolling, leukocytes become exposed to activating signals (such as chemokines), resulting in an upregulation of the capacity of b2 integrins (eg LFA-1, Mac-1) to bind ligands (eg ICAM-1, -2) on EC. This integrin-mediated secondary adhesion results in leukocyte arrest and is followed by their transmigration into the tissues. In the case of mononuclear cells, adhesion of a4 integrins to EC ligands (eg VCAM-1) may contribute to both the rolling and firm adhesion stages of their interaction with EC. The talk will focus on comparisons between inflammatory rheumatic diseases and atherosclerosis, and will discuss recent technical advances that have allowed an improved understanding of the patterns of endothelial activation and adhesion molecule expression that occur in acute and chronic inflammatory settings.

SP0043 EPIDEMIOLOGY OF CARDIOVASCULAR COMPLICATIONS IN SYSTEMIC LUPUS ERYTHEMATOSUS

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10.1136/annrheumdis-2001.4

Cardiovascular complications are increasingly recognised as a major cause of morbidity and mortality in SLE. The incidence of myocardial infarction is elevated 8 to 50-fold compared to age and gender matched controls. Traditional cardiovascular risk factors are increased in SLE, and are associated with both

preclinical and clinical atherosclerosis. However, even after adjustment for traditional risk factors, a large difference in the frequency of cardiovascular disease exists between SLE patients and controls. In the general population, atherosclerosis is now recognised as a chronic inflammatory condition, with elevations of C-reactive protein and IL-6. TNF has a role in the pathogenesis of congestive heart failure. These and other inflammatory cytokines likely play a role in SLE. Furthermore, SLE patients are hypercoagulable secondary to antiphospholipid antibodies and other factors. Thus, the pathogenesis of cardiovascular complications in SLE is likely multifactorial, with both SLE and traditional risk factors playing a role.

Abstract SP0043 Table 1

Variable	OR	95% CI	p-value
Smoking	1.87	1.1–3.1	0.02
Renal insuff.	2.21	1.1–4.5	0.04
Obesity	2.13	1.3–3.6	0.005
Hypertension	4.19	2.4–7.3	0.0001
Diabetes	3.44	1.6–7.4	0.002
Cholesterol	1.79	1.04–3.1	0.045
Aspirin Use	0.54	0.3–0.96	0.04
Premarin	2.48	1.4–4.5	0.004
Continuous Variables			P-value
Weight			0.0005
BP-systolic			0.0001
BP-diastolic			0.019
Age			0.0001
Yrs. Duration of Lupus			0.04
Highest Prednisone Dose			0.04

SP0044 THE EPIDEMIOLOGY OF VASCULAR DISEASE IN RHEUMATOID ARTHRITIS

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10.1136/annrheumdis-2001.5

Cardiovascular disease (CVD) is the most common cause of death in RA as in the general population. According to most epidemiological reports, death due to CVD is more frequent in RA than in the general population with standardised mortality ratios (SMR:s) ranging from 1.3–2.4. Several of the studies are community based. The largest increase, SMR 3.64, was reported in women aged 15–49. Some studies have reported increased death due to ischaemic heart disease (IHD) while reports on cerebrovascular disease are contradictory. In 606 patients with RA followed-up after 16 years we found an SMR for CVD of 1.57 and for IHD 1.54. Cardiovascular morbidity in RA is less investigated. However, current epidemiological data implicate increased prevalence of cardiovascular (CV) events and increased IHD morbidity in RA. These findings are supported by physiological studies. In 39 RA patients with medium-term disease, we found indications of increased atherosclerosis as measured by intima media thickness (IMT) of the carotid artery, presence of plaques and aortic cusp sclerosis compared to controls. Established cardiovascular risk factors do not contribute prominently to CVD in RA. Recent studies have reported increased prevalence of hypertension and higher blood pressure in RA compared to controls. Hypertension could also predict CV events and death. The