THU0134 LEFT VENTRICULAR (LV) DIASTOLIC DYSFUNCTION ASSOCIATES WITH SYSTEMIC INFLAMMATION IN RHEUMATOID ARTHRITIS (RA)

¹MJ Banks, ²F Ahmed, ²EJ Flint, ²PR Forsey, ³PA Bacon, ¹GD Kitas. ¹Rheumatology; ²Cardiology, Dudley Group of Hospitals NHS Trust, Dudley; ³Rheumatology, University of Birmingham, Birmingham, UK

10.1136/annrheumdis-2001.1036

Background Abnormal diastolic LV filling is an early marker of cardiovascular disease and death. In the general population, it associates with hypertension, LV hypertrophy or ischaemia. A high prevalence has been reported in RA and other inflammatory conditions (up to 40%), even after exclusion of patients with known, relevant cardiovascular pathology. Its cause and significance in inflammatory conditions remains unknown.

Objectives To identify the causes of diastolic LV dysfunction in RA.

Methods 39 random RA out-patients were assessed. LV filling: LV inflow Doppler in expiration by Echodoppler, with 5 measurements of isovolumetric relaxation time (IVRT), deceleration time (dte) and E:A ratio. Cardiac causes (BP, LVH, IHD ? age), Rose Questionnaire, examination, ECG, adenosine-stressed myocardial perfusion SPECT imaging. RA-related causes: acute phase response (current and mean ESR, CRP); cytokines (TNF α , IL-1b, IL-6); endothelial factors (vWF, ACE); Steroids: >7.5 mg Prednisone for >6 months; extra-articular disease. Statistics: Linear and multiple logistic regression as appropriate.

Results Age correlated significantly with IVRT ($r = 0.444$, $p = 0.005$), dte ($r = 0.495$, $p = 0.003$), and E:A ratio ($r = 0.67$, $p = 0.0001$). Mean ESR correlated with IVRT ($r = 0.324$, $p = 0.04$), Mean CRP with E:A ratio ($r = 0.305$, $p = 0.05$), IL-6 with E:A ratio ($r = 0.34$, $p = 0.05$), vWF with IVRT ($r = 0.346$, $p = 0.03$) and E:A ratio ($r = 0.331$, $p = 0.04$). E:A ratio was significantly lower in those on steroids. Multiple regression showed age and mean ESR to independently predict IVRT. vWF was collinear with mean ESR for IVRT. Age, IL-6, and mean CRP were independent predictors of E:A ratio. vWF and steroids were collinear with mean CRP for E:A ratio. Hypertension, LVH, IHD, BMI, RA duration and extra-articular features did not associate with LV filling in RA. The association of LV filling with inflammatory mediators remained significant even after correction for age.

Conclusion The association of worsening LV filling with inflammatory burden rather than established cardiovascular causes in RA is an interesting new observation. It may explain the previously reported high prevalence of abnormal LV filling in RA and other inflammatory conditions and may be due to direct cytokine effects on the myocardium.

THU0135 CARDIAC INVOLVEMENT IN RHEUMATOID ARTHRITIS (RA). HAS IT CHANGED?

¹MJ Banks, ²F Ahmed, ²EJ Flint, ²PR Forsey, ³PA Bacon, ¹GD Kitas. ¹Rheumatology; ²Cardiology, Dudley Group of Hospitals NHS Trust, Dudley; ³Rheumatology, University of Birmingham, Birmingham, UK

10.1136/annrheumdis-2001.1037

Background Rheumatoid Heart Disease (RHD) (pericarditis, myocarditis, endocarditis) has been reported in 30–40% of RA patients in several echocardiographic studies conducted before the era of aggressive, early therapy with disease-modifying drugs (DMARDs).

Objectives We assessed whether the recent therapeutic trend of early DMARD therapy has had an impact on the prevalence of cardiac complications of RA, compared with historical controls.

Methods 52 RA out-patients (19 males, 33 females) with a mean disease duration of 11.7 yrs who had received DMARD therapy within 12 months of symptom onset (6 months since diagnosis) were assessed echocardiographically. Pericardial disease was defined as pericardial thickening (>5 mm) or effusion. Endocardial disease was defined as either mitral or aortic valve thickening or calcification.

Results Endocardial disease was seen in 12 (23.1%), pericardial disease in 11 (21.2%), left ventricular hypertrophy (LVH) in 24 (46%). Left ventricular systolic function was abnormal in 3 patients (6%) due to regional wall motion abnormalities due to previous myocardial infarction. Assessment of myocardial disease was confounded by the high prevalence of LVH. There was no significant difference between males and females. Historical controls are shown in the Table 1.

Abstract THU0135 Table 1 Historical controls. (Echo Findings)

	Number	Endocardial disease	Pericardial disease	Systolic dysfunction
Mody et al. 1987	84	10%	8%	6%
Macdonald et al. 1977	51	-	35%	8%
Bacon et al. 1974	44	34%	34%	-
Prackash et al. 1973	16	-	45%	-

Conclusion The prevalence of pericardial and endocardial disease appears lower than that of historical controls. As with other extra-articular disease manifestations, earlier use of DMARDs may have had an advantageous impact on the development of cardiac complications of RA.

THU0136 CONFIDENCE IN THE DIAGNOSIS OF EARLY RHEUMATOID ARTHRITIS: A PROSPECTIVE FOLLOW-UP OF 270 EARLY-ARTHRITIS PATIENTS

¹JM Berthelot, ²A Sarau, ²C Le Henaff, ³G Chalès, ⁴JB Thorel, ⁵S Hoang, ²D Baron, ²P LeGoff, ²P Youinou. ¹Rheumatology Unit, Hôtel-Dieu, CHU Nantes, Nantes; ²Rheumatology Unit, Hôpital de La Cavale Blanche, CHU Brest, Brest; ³Rheumatology Unit, Hôpital Sud, CHU Rennes, Rennes; ⁴Rheumatology Unit, CHD, Lorient; ⁵Rheumatology Unit, CHD, Vannes, France

10.1136/annrheumdis-2001.1038

Background The treatment of early rheumatoid arthritis (RA) should not be delayed. However, aggressive therapy is often introduced only when rheumatologists feel confident enough in their diagnosis of RA.

Objectives We sought the confidence of both office-based-rheumatologists (OBR) and a college of 5 experts in their diagnosis of early-RA.

Methods 270 patients with early-onset (<1 year) arthritis were prospectively followed-up for 29 $\pm$ 11 months. At final examination, OBR and a college of 5 experts rated their confidence in the diagnosis of RA on 0–10 and 1–4 analogue scales respectively.

Results 35/270 patients (13%) were still unclassified by their OBR. RA was diagnosed in 114 (42%), spondylarthropathy in

56 (21%), and miscellaneous other disorders in 65 (24%). The OBR confidence in their final diagnosis of RA was 7.5 ± 2.3 (68/114 patients with a confidence of 8/10 or more). A collegial diagnosis of certain RA (N = 57) or probable RA (N = 41) was made for 98 patients. The strength of OBR confidence in the diagnosis of RA was strongly correlated to that of the college ($r = 0.892$). Conversely, the fulfilment of 4 ACR criteria for RA since the first visit was associated with an only slight increase in final OBR confidence (7.9 ± 2.1).

Conclusion Although only 13/114 (11%) patients finally classified as RA changed from diagnosis during follow-up, the final confidence of OBR in their diagnosis of RA were below 8/10 in 40%, and was only slightly improved by the fulfilment of ACR criteria. This emphasises the need for a close follow-up of these patients during the first years and the use of RA criteria for the classification of early arthritis.

THU0137 LETHAL MEDIUM-VESSEL ARTERITIS MIMICKING DEEP SEPSIS FOLLOWING ETANERCEPT AND MINOCYCLINE THERAPY IN A PATIENT WITH RA

JM Berthelot, J Glemarec, Y Maugars, A Prost. *Rheumatology Unit, Hôtel-Dieu, Nantes, France*

10.1136/annrheumdis-2001.1039

Background

Objectives To report the onset of a severe and lethal medium-vessel panarteritis mimicking deep sepsis three weeks after etanercept withdrawal and minocycline therapy in a patient with RA.

Methods

Results A 50-year-old man with RA (7/7 1987 ACR criteria) had poorly responded to all DMARDs and low-dose steroids for 12 years. In September 1999, DAS-28 score of 6.8 led to a treatment by etanercept (25 mg twice a week) for 4 months who remained poorly effective too (DAS-28 after 3 months: 6.05). Although no side-effects occurred, the patient wished to stop etanercept. A short cure by minocycline was administered. Ten days after, the patient's general condition worsened with fever (from 38°C to 39°C), hyperleukocytosis (24.109/ml), confusion, pleural effusion, hypoalbuminemia (17.2 g/l), epigastric pain, and CRP levels up to 295 mg/l. ANA and APL were negative, and ANCA only slightly positive (1/20, without anti-MPO antibodies). RF were 40 times the upper normal value. Extensive search for sepsis was unsuccessful. Highly false positive tests for myoglobin with ELISA kits using rodent antibodies were suggestive of anti-chimeric antibodies. The patient died in March 2000, three months after discontinuance of etanercept. An autopsy confirmed severe plurivisceral vasculitis typical of granulomatous, necrotising panarteritis, with both old and recent lesions involving mainly the medium-vessels in heart, muscles and gall-bladder.

Conclusion Although the relation of the patient's death to treatments is uncertain, a flare of rheumatoid vasculitis could have been involved. This severe vasculitis occurring soon after etanercept withdrawal and presenting first as unexplained fever mimicked deep sepsis for several weeks and misled the treatment strategy.

THU0138 THE ACUTE PHASE RESPONSE DOES NOT FULLY EXPLAIN DYSLIPIDEMIA AND INSULIN RESISTANCE IN INFLAMMATORY ARTHRITIS

¹PH Dessein, ²BI Joffe, ¹AE Stanwix, ³Z Moomal. ¹Rheumatology, ²Carbohydrate and Lipid Metabolism Research Unit, Witwatersrand University/Johannesburg Hospital, Johannesburg; ³Statistics, National Research Foundation, Pretoria, South Africa

10.1136/annrheumdis-2001.1040

Background An increased frequency of insulin resistance (IR) and dyslipidemia has been identified in inflammatory arthritis (IA). These metabolic disturbances may be attributable to disease activity and were implicated in the excess cardiovascular disease mortality as reported in IA.

Objectives In the present study we evaluated insulin sensitivity and lipid metabolism, as well as the potential role of the acute phase response as a predictor of these metabolic disturbances in IA.

Methods Eighty seven patients (38 rheumatoid arthritis, 29 spondyloarthropathy, 20 undifferentiated inflammatory arthritis) and 30 age-, gender- and race matched healthy controls (CN) were enrolled. Patients who had taken glucocorticoids during the previous 2 months or were taking agents known to affect insulin sensitivity or lipid metabolism were excluded. The body mass index (kg/m²) was calculated in each subject. The erythrocyte sedimentation rate (ESR), plasma glucose, serum insulin and total cholesterol (chol), LDL-chol, HDL-chol and triglycerides were determined on fasting blood samples. IR was estimated by the homeostasis model assessment (HOMA). Results were expressed as mean (SD).

Results The BMI was 26.5 (4.2) in the patients and 22.9 (2.8) in the CN ($p < 0.001$). The HOMA (uU.mmol/ml.l) was 1.9 (1.3) in patients as compared to 1.1 (0.5) in CN ($p = 0.001$). The HDL-chol was lower ($p = 0.002$) and the total chol/HDL-chol was higher ($p < 0.001$) in patients as compared to CN. Only after controlling for the BMI in addition to the ESR, was the HOMA no longer different between patients and CN. The ESR and HOMA, but not the BMI, significantly predicted ($p < 0.05$) high chol/HDL-chol ratios. However, after controlling for these variables, this lipid parameter remained different in patients as compared to CN. Also, IA was associated with a positive family history for premature coronary artery disease ($p < 0.03$).

Conclusion Metabolic disturbances were identified in the majority of our patients and should therefore be addressed in the management of IA. IR could be attributed to the acute phase response and excess weight. However, dyslipidemia was associated with IA independent of the ESR, BMI and IR. Dyslipidemia may constitute a risk factor for IA.

REFERENCES

- 1 Svenson KL, et al. *Metabolism* 1988;**37**:125-30
- 2 Park YB, et al. *J Rheumatol.* 1999;**26**:1701-4
- 3 Dessein PH, et al. *Rheumatology* 2001, in press

THU0139 THE EFFECT OF INCREASED AIR PRESSURE ON PATIENTS WITH ACTIVE RHEUMATOID ARTHRITIS

¹LP Robertson, ²S Marshall, ²P Hickling. ¹Department of Rheumatology, Royal Cornwall Hospital, Truro, UK; ²Department of Rheumatology, Derriford Hospital, Plymouth, UK

10.1136/annrheumdis-2001.1041

Background