2.2 Rheumatoid arthritis - clinical aspects and co-morbidity

Surveillance of surgical site infection in patients with rheumatoid arthritis

K ISHI, K HARGANAE, N MITUSCI, N TAKI, T SAILO, Y MOCHIDA, Y YAMADA

Yokohama City University Medical Center, Yokohama, Japan

Background: After introducing the guideline of Centers for Disease Control and Prevention in 1999, clinical concern about SSI has been increasing. Recently, the guideline is widely recognized as the basics for prevention protocols of SSI. Although rheumatoid arthritis (RA) is listed as a risk factor for SSI in the guideline, few studies were reported about the disease specific surveillance with RA.

Objectives: To identify traditional cardiovascular risk factors in patients with rheumatoid arthritis at Kenyatta National Hospital and compare with healthy controls

O OYOO

University of Nairobi, Nairobi, Kenya

Background: Rheumatoid arthritis is associated with excess cardiovascular morbidity and mortality predominantly due to accelerated coronary artery and cerebrovascular atherosclerosis. The prevalence of RA is the main medical facility to collect the following data in patients who met the 1987 ACR criteria for RA, dyslipidemia, hypertension, diabetes, and smoking. The prevalence of RA in our population.

Objective: To identify traditional cardiovascular risk factors in patients with rheumatoid arthritis at Kenyatta National Hospital and compare with healthy controls

Methodology: This was a descriptive comparative cross sectional survey done at KNH medical outpatient clinic. The study population consisted of patients with rheumatoid arthritis and the controls were individuals without RA age and sex matched staff of KNH. All those who consented were enrolled and a clinical evaluation was done. Concurrent sampling was done on those who fulfilled ACR criteria for patients with RA and also for the controls who consented to participate in the trial. The patients/controls who met inclusion criteria and signed an informed consent, filled a questionnaire with the help of an assistant and had their height, Blood pressure, weight, smoking, and family history of cardiovascular disease measured. Blood was also taken for fasting blood sugar and lipid profile analysis. They were given back their results and accorded treatment according to the outcome of their results.

Results: There is a high prevalence of hypertension in patients with RA; hypertension was also associated with the use of DMARDs and steroids and this was statistically significant. There was no significant difference between patients and controls in terms of other risk factors such as diabetes mellitus, dyslipidemia, smoking, BMI, WHR, and family history of cardiovascular disease.

Conclusion: Clinicians should keenly look out for hypertension in patients with RA for early identification and manage it appropriately.

Peripherial arterial disease in Rheumatoid arthritis patients at the Kenyatta National hospital Kenya

B GANDA

University of Nairobi, Nairobi, Kenya

Background: The main cause of death in Rheumatoid Arthritis (RA) has been attributed to cardiovascular disease. Peripheral arterial disease as a marker of atherosclerosis has so far been understudied in the RA population in Kenya.

Objective: To determine the magnitude of atherosclerotic arterial disease in RA patients at Kenyatta National Hospital.

Methods: In a hospital based crosssectional study, the Ankle Brachial Index (ABI) was measured using the standard method. Arteries were classified as obstructed if ABI <0.9, normal if ABI (0.9 to 1.3) and incompressible if ABI ≥ 1.3. Bivariate analysis was used to calculate association between PAD and cardiovascular risk factors (risk age, established RA, severe RA, dyslipidemia, hypertension, diabetes, cigarette smoking). Odds ratios were calculated as a measure of risk magnitude. Binary logistic regression was used to analyze for independence of risk factors. Edinburgh Claudication questionnaire was used to determine PAD symptoms and both its sensitivity and specificity to diagnose PAD.

Results: We obtained ABI measurements in 90 RA patients, among them 23(25.5% CI 17.2–36.1) had obstructed lower limb arteries. Among the 23, 21(91.3%) had mild PAD, 2(8.7%) had moderate PAD; none had severe PAD. The obstruction of vessels was independent of diabetes, hypertension, dyslipidemia and cigarette smoking although these factors increased the likelihood of having PAD. Risk age (245 males, 255 females). Established RA (>5 years duration) and severe RA were found to be significantly associated with the likelihood of having PAD. These trends remained significant after multivariable adjustment for potential confounders. Twenty-five (27.8%) of the study subjects exhibited symptoms of intermittent claudication, 13 (52%) of them had PAD on ABI measurements. The Edinburgh Claudication questionnaire was found to have 56.9% sensitivity and 82% specificity in detection of PAD in RA patients.

Conclusion: There seems to be an association between PAD in RA with chronicity and severity among our RA patients. Clinicians should be alert to the possibility of impaired arterial function and thus subsequent cardiovascular morbidity and mortality in this group of patients.

Characteristics of patients with rheumatoid arthritis in Qatar: a study of 100 patients managed by hospital based rheumatologists

A LUFT, A RAZZAKH POOL, M HAMMOUDHE

Hamad Medical Corporation, Doha, Qatar

Background: Rheumatoid arthritis is a complex disease which produces articular symptoms and damage, leading to disability. There are consequences both for the patient and for society. Variations in the clinical expression, severity and outcome of the disease among different ethnic groups have been reported. We conducted this study to evaluate characteristic of RA in our population.

Objective of the study: To describe the clinical, serologic and radiographic characteristics of rheumatoid arthritis (RA) in patients treated at the main Medical Facility in Qatar.

Methods: This cross sectional study was conducted at Hamad Medical Corporation which is the main medical facility to collect the following data in patients who met the 1987 ACR criteria for RA.

• Demographic data (age, nationality and gender)
• Number of swollen and number of tender joints,
• X-ray and
• Status of Rheumatoid factor and Anti-CCP

Results: One hundred patients were included. Sixty-seven percent were female 33% male, Main HAQ score was 1.69. Sixty-six percent had >6 swollen joints, 9% had >6 tender joints. DAS28 score calculation revealed 49% of patients in remission (DAS28 ≤ 2.6) and 15% were in low disease activity [DAS28 (3.2–6.6)] and 36% had DAS28 >2.2 Main HAQ score was 2.52. RF was positive in 64% and the anti-CCP was positive in 72%. X-ray of hand and feet during last year was done in 65% of patients, 11% of them had erosions. Sixty-six per cent were on one synthetic DMARD and 27% were on two synthetic DMARDs and 7% not on synthetic DMARD, 51% on glucocorticoid, while 29% of them currently were on biologics. Of 19% on methotrexate, 10% on methotrexate and remission.

Conclusion: In a rheumatoid arthritis population in Qatar, almost 64% of them were in remission or low disease activity and the disease was active in 36% and 29% were on Biologics.
Established RA and Comorbidities in Abu Dhabi
H M AL ATTIA
Department of Internal Medicine and Rheumatology, Al Noor Hospital, Airport Road, Abu Dhabi, UAE

Aim: To determine the types and frequency of comorbid medical conditions present in patients with RA in Abu Dhabi.

Patients: Reviewed the data of 120 patients attended the rheumatology clinic over 3 years and half because of rheumatoid arthritis.

Results: Of the 172 events were documented in those patients (145 per patient) despite a high rate of follow up (58% for at least 1 year). Demographically, they were diverse; 66.5% from Middle East including 25 UAE nationals (21%) and North Africans of Arab extraction. The rest were heterogeneous individuals. F: M ratio was 2.75:1 and the average age was 48.6 ± 12.3 years (F: 47.8 ± 12.3 versus M: 50.6 ± 12.3 years), P = 0.28. The disease duration was 7.44 ± 8.02 years (F: 7.97 ± 8.36 versus 6.01 ± 6.93), P = 0.23. Anemia 41 (34%) followed by hyperproteinemia 28 (23.5%) were the commonest conditions followed by T2DM (19%), depression (10/53), (19%), hyperlipidemia (19%), another autoimmune disease (11%), (9%), rheumatic heart disease (RHD) and intestinal long (ILD) of 8 (6%) each, asthmas (6%) and congestive cardiac failure (CCF) and obesity of 1 (2.5%) and pulmonary hypertension (PHT) 1 (0.8%). Fifty patients underwent DNA scanning, 15 were osteoporotic (30%). TB was not reported in any of the 39 (32.9%) patients who received biologic treatment. Malignancy was not encountered too.

Conclusions: Significant number and wide range of comorbid conditions can be encountered despite a high rate of failure in follow ups. Physicians dealing with RA need to be alert to care for these conditions as well.

Relative frequency of minor thalassemia in patients with rheumatoid arthritis in Gilan Province
A HAIBRASSI, A RAHMANI, E AZADMANESH, N AMINI
Gilan University for medical sciences, Rasht, Iran

Introduction: Rheumatoid arthritis (RA) is the most common autoimmune inflammatory arthritis. Affecting 0.3–1% of general population worldwide. In addition to joint involvement, abnormal immune response can create a variety of extra articular manifestations. The direct and indirect costs of illness are high. Epidemiological studies suggest that earlier and more effective treatment has diminished morbidity of the disease. Several studies have shown significant increase of B-thalassemia trait prevalence in patient’s whit RA. The aim of this study is to compare the prevalence of B-thalassemia in RA with control group.

Method and Materials: In 300 patients with RA, prevalence of B-thalassemia compared with 300 patients without RA (control group). The control group shouldn’t have the below criteria: Smoking, Iron deficiency anemia, Diabetes mellitus type I, Chronic kidney disease (CKD), etc.

Results: B-thalassemia prevalence was 10.7% (32 patients) in RA group and 11% (33 patients) in control group. The difference was not significant (P = 0.05).

Conclusion: Regarding to the lack of differenc in 8-thal prevalence between two groups, we need more studies in this subject.

Key words: beta-thalassemia, rheumatoid arthritis.

Why do some rheumatoid arthritis patients have high ESR levels despite clinical remission?
B SAN KOO, B YOO, C K LEE, M WOOKSO, Y-G KIM, YJ KIM
Asan Medical Center, Seoul, South Korea

Background: Erythrocyte sedimentation test (ESR) is useful test for assessment of rheumatoid arthritis (RA) disease activity with C-reactive protein (CRP). Some RA patients have kept high ESR level despite clinical remission state and normal CRP level.

Object: The aim of this study is to find the cause of elevated ESR level in RA remission patients.

Method: A case control study of 91 outpatients who visited tertiary medical center for 2 months was conducted. Disease activity score (DAS) 28 ESR, DAS 28 CRP, simplified disease activity index, clinical disease activity index were calculated. The patients who meet remission of DAS 28 CRP (DAS 28 CRP <2.6) were selected. They were divided into high ESR level group (ESR level of the last 3 months >40 mm/hour) and low ESR level group (ESR level of the last 3 months ≤40 mm/hour). Characteristics of each group were compared.

Results: Among 91 patients, 61 patients (67%) were remission state by DAS 28 CRP. They also met remission criteria of CDAI and SDAI. They divided into high ESR level group and low ESR level group (46 and 15 patients, respectively). Age, sex ratio, body mass index, HAQ, current medications and underlying diseases were not significantly different. Disease duration was longer in high ESR level group (99 ± 60.22 months) than in low ESR group (92 ± 48.88 months). In laboratory findings, white blood cell, platelet and CRP were slightly increased and albumin, hemoglobin and Alanine aminotransferase (ALT) were slightly decreased in high ESR group. These laboratory findings showed even small differences but they were statistically significant.

Conclusion: Abnormal inflammatory markers (white blood cell, platelet, CRP, albumin, hemoglobin) in high ESR level group showed that inflammation is ongoing despite remission state of RA. The patients with high ESR level have to treat actively to decrease inflammation. Furthermore, range of remission may need to be readdressed because the difference between the degrees of inflammation is present even within the remission state.
understanding the variability in disease presentation of the moderate RA patient. Understanding this population may help assess a different course of treatment from the extensively studied severe RA population.

703383

Decrease in high-density lipoprotein cholesterol during inflammation is common in Rheumatologic Diseases including rheumatoid arthritis

W J KIM, C S CHO, H S YOON, Y J PARK

The Catholic University of Korea, Seoul, South Korea

Objectives: A decrease in high-density lipoprotein (HDL) cholesterol during inflammation is common in many rheumatologic diseases including rheumatoid arthritis (RA). Apolipoprotein M (apoM) is an apolipoprotein predominantly associated with HDL cholesterol. Recently, apoM polymorphisms were related with RA susceptibility. We investigated the possible association between an apoM polymorphism and dyslipidemia in Korean RA patients.

Methods: Two hundred-fifteen RA patients and 215 controls that provided complete genotyping were included. Genetic distribution, RA-associated phenotype, lipid profiles, and lipoproteins were evaluated.

Results: RA patients had increased frequencies of the APOM C-1065A A allele compared to the controls. RA patients with A/A genotypes had lower HDL cholesterol than those with C/C genotypes. After adjustment for confounding factors, the A/A genotype was a risk factor for low HDL cholesterol (OR = 1.070, P = 0.001). Subgroup analyses according to disease activity showed that the association between APOM genotype and HDL cholesterol levels was still significant in all subgroups, indicating that this APOM polymorphism may increase the dyslipidemia risk, independent of RA disease activity.

Conclusions: These data support the APOM C-1065A polymorphism is associated with increased risk for developing RA and dyslipidemia in RA patients. Reduced HDL cholesterol levels are independent of disease activity but are significantly influenced by APOM genotype. These findings suggest that a specific genetic factor for RA could be linked to dyslipidemia and this could increase the risk of atherosclerosis in RA patients.

703511

Detection of subclinical atherosclerosis by ankle brachial index in patient with early rheumatoid arthritis

N WONCWORA-APORN, M OSIRI

Rheumatology unit, Department of Medicine, Faculty of Medicine, Chulalongkorn University, Thailand

Objectives: To evaluate subclinical atherosclerosis by ankle brachial index (ABI) measurement in patient with early rheumatoid arthritis (RA) compared with age-, sex-, body mass index (BMI)-, and atherosclerosis-associated underlying diseases matched healthy persons.

Method: Forty-five patients with early RA who met the 2010 EULAR/ACR classification criteria for the classification of RA and disease duration of ≤3 years were included in this study. Smokers, patients with diabetes mellitus and previous cardiovascular events were excluded. Forty-five age-, sex-, BMI- and atherosclerotic-associated underlying diseases-matched healthy volunteers were selected as controls. ABI were measured by a skilled staff unaware of the persons studied.

Results: Patients with RA had similar traditional risk factors to those of controls, such as proportion of previous smokers, exercise <3 times/week, and menopausal state. No significant differences in the mean BMI, waist circumference, blood pressure, fasting blood sugar, and lipid profiles. Mean ABI was 1.06 ± 0.07 for RA patients and mean ABI was 1.08 ± 0.07 for controls (P = 0.96). None of the patients had definite abnormal range of ABI (ABI ≤ 0.9). In addition, both groups have similar proportion of borderline and low normal ABI, which may indicate an increase risk of subclinical atherosclerosis.

Conclusions: No difference in ABI between patients with early RA and matched controls. A significant abnormal ABI in RA patients was not demonstrated.

Conflict of interest: none

703548

Anti-cyclic citrullinated peptide antibody in rheumatoid arthritis: experience in Bangladeshi hospital based patients

MILI MALLIK1, A RAHIM1, I ROY1, KAK AZAD2, M RAFIQUZZAMAN1, M MONIRUZZAMAN2, M MUBIRU RAHMAN2, R HASAN2, SG MOCNI MOWLA1

1Dhaka Medical College Hospital, Dhaka, Bangladesh, 2Shahid Shalvatravy Medical College Hospital, Dhaka, Bangladesh

Background: Rheumatoid Arthritis (RA) is a chronic multi system autoimmune disease. The antibodies those are mostly used in clinical practice being IgM-RF and anti-CCP antibody. Diagnosis of RA is mostly clinical by the ACR criteria. There are no studies comparing IgM-RF and anti-CCP in RA patients in Bangladesh.

Objectives: To find out the status of anti-CCP antibody in clinically diagnosed RA patients and to compare the anti-CCP antibody and Rheumatoid Factor (RF) with disease severity

Methods: It is a descriptive observational study done in two teaching hospitals in Dhaka. RA patients were included fulfilling the revised ACR criteria 1987. After inclusion, RF-IgM and anti-CCP antibody were assayed by ELISA in a renowned laboratory. Disease severity was calculated according to disease activity score in 28 joints (DAS28) and categorized mild (DAS28 ≤ 3.2), moderate (DAS28 3.2–5.1) and severe (DAS28 ≥ 5.1). Data were analyzed by SPSS version 16.

Results: Among 82 patients 78% were female and 22% were male, age ranging from 18 to 70 years. Fifty-two (75.6%) patients were positive for anti-CCP (sensitivity is 75.61%), 42 (67.7)% of which were positive for IgM RF also. Fifty (60.97%) patients were positive for RF (sensitivity 60.97%). Overall 50 (60.97%) patients presented with severe disease and 32 (39.03%) presented with mild to moderate disease. Forty-three (52.44%) anti-CCP positive patients showed severe disease activity and 19 (30.65%) had mild to moderate disease activity (P = 0.01). In contrast, 31 (62%) RF positive patients had severe and 19 (38%) had mild to moderate disease activity (P = 0.01). Patients who were positive for both RF and anti-CCP had lower disease activity (P = 0.001). Patients who had anti-CCP titre <5 (n = 20), 4 had severe disease activity (P = 0.001) and who had titers more than threefold raised (n = 46), 36 (80.4%) had severe disease (P = 0.004).

Conclusion: This is a small study to draw definitive conclusion. The association of anti-CCP antibody is more in clinically confirmed RA patients and more sensitive than RF. The positivity of both the antibodies is associated with the severe disease activity.


705564

Evaluation of the sensitivity and specificity of the American college of rheumatology 2010 criteria for the diagnosis of rheumatoid arthritis in Chinese patients

J ZHAO, J XU, X ZHANG, G LI, Z ZHANG

Department of Rheumatology and Clinical Immunology, Peking University First Hospital, Beijing, China

Background: A joint working group of ACR and the European League Against Rheumatism (EULAR) therefore developed a new approach for classification of RA in 2010. The sensitivity and specificity of the new criteria had not been elucidated clearly.

Objective: To evaluate the ability of American College of Rheumatology (ACR) 2010 classification criteria to diagnose rheumatoid arthritis (RA) compared with widely used ACR 1987 criteria in Chinese patients.

Methods: Of 174 patients were included in the study. Among these patients, 117 were diagnosed as RA and 57 were diagnosed as other rheumatic diseases by experienced rheumatologists. The patients with disease duration within 1 year, 2 years and over 2 years were further subdivided into three groups. The diagnostic value of ACR 2010 criteria for RA was evaluated by comparing its sensitivity and specificity with those of ACR 1987 criteria in these three groups.

ROC Curve

Figure 1: ROC curves of ACR 1987 and 2010 criteria for diagnosis of RA.

International Journal of Rheumatic Diseases 2012; 15 (Suppl. 1): 45–52 © 2012 Asia Pacific League of Associations for Rheumatology and Blackwell Publishing Asia Pty Ltd 47
Results: The sensitivity and specificity of ACR 2009 criteria for diagnosing RA were 91.5% and 75.4%, respectively. In contrast, the sensitivity and specificity of ACR 1987 criteria were 81.2% and 69.5%, respectively. However, the area under the curve (AUC) of two criteria was similar (0.853 versus 0.834, P = 0.05) (Figure). The accuracy ratings of two criteria were almost equivalent (85.6% versus 86.2%, P = 0.05). Inter-rater analysis showed that agree- ""
early RA and in later disease course, it was only significant for the changes in mean TC (P = 0.02) and TG levels (P = 0.18). DMARDs had no effect on lipid profile. Statin therapy has a significant effect on mean differences in TC (P = 0.14), LDL-C (P = 0.20) and TG (P = 0.49). Of 40.7% of patients were on statin therapy.

Conclusion: A small percentage of RA patients exhibit the classic dyslipidaemia pattern of low HDL-C and elevated LDL-C. Statin therapy has an effect on the lipid profile and its role in this population is quite substantial.

703167

Clinical profile of rheumatoid arthritis patients in Malaysia

A ROMSAN1, HM YUSOOF2, H HUSSIN2, IS LAU1, MM ZAIN1, S SUMING1, SC GLIN1

1Hospital Selayang, Selangor Darul Ehsan, Malaysia, 2Hospital Patrajaya, Patrajaya, Malaysia, 3Hospital Tuanku Ja‘afar Seremban, Malaysia

Background: Patients with Rheumatoid Arthritis (RA) from three Rheumatology Centres in Malaysia were studied. This study looked at the clinical presentation of RA patients in Malaysia.

Objective: To study the clinical aspects including diagnosis, duration of disease, disease activity, extra-articular manifestations and co-existing medical conditions of our RA patients.

Methods: A structured case report form was used for data collection. Patients from 3 major Malaysian Rheumatology Centres were interviewed and their medical records reviewed. A total of 1000 patients were studied. The data collection was from 22 May 2009 to 31 August 2010 and the results were analysed.

Results: In this cohort, 78.3% fulfilled the 1987 ACR criteria definition for Rheumatoid Arthritis and 21.7% fulfilled less than 4 of the criteria. Of 48.7% of patients were diagnosed more than 1 year after the onset of symptoms. Of 37.3% were diagnosed between 1 and 6 months. Majority of the patients had rheumatoid arthritis for <10 years. Using the DAS28 11 patients had moderate disease activity (DAS28 >3.2–5.1) and 16.0% had high disease activity (DAS28 >5.1). For the co-existing medical conditions, hypertension was the commonest with 36.2%, with hyperlipidaemia at 25.5%, diabetes at 16.1%, ischaemic heart disease at 3.9% and peptic ulcer disease at 3.9%. Of 6.1% were diagnosed to have osteoporosis. Sineum cases (1.6%) of malignancies were reported. The commonest malignancy reported was breast cancer with eight cases. The commonest extra-articular manifestation of RA were keratoconjunctivitis sicca (22.6%) lung fibrosis (61%), anaemia due to RA (3.7%) and rheumatoid nodules (6.1%).

Conclusion: A significant number of patients did not fulfil the 1987 ACR criteria for RA. With the introduction of the ACR/EULAR 2010 criteria, diagnosis should be further improved especially for early RA. Almost 50% were diagnosed 1 year after onset of symptoms. Nearly half of the patients had moderate to high disease activity which would require better disease control. A significant number of the patients had medical co-morbidities and osteoporosis.

703540

Study on rheumatoid arthritis-associated interstitial lung disease in the elderly patients

L BO, C LI-MING, M CHI-LI, L PING, B LI-QI

Department of Rheumatology & Immunology, China-Japan Union Hospital, Jilin University, China

Background: Whereas overall mortality rates for RA had fallen, mortality rates associated with RA-ILD had increased significantly in older age groups. Few studies were focused on the RA-ILD in elderly population.

Objective: To analyse the clinical characteristics, image features and pulmonary function tests of RA-ILD in elderly patients.

Methods: A total of 565 patients with RA were retrospectively reviewed in the Third Hospital of Jilin University from January 2010 to April 2012. There were 50 patients diagnosed with RA-ILD, among them. The RA-ILD patients were divided into two groups by age, Group A (age>60 year-old; n = 26) and Group B (age<60 year-old; n = 24). Assessments included the clinical, laboratory, pulmonary function tests and image features according to HRCT.

Results: The incidence of RA-ILD was 17.86% (26/147) in the older RA patients, significantly higher in older age groups. Few studies were focused on the RA-ILD in elderly population.

Conclusion: The incidence of RA-ILD in elderly RA patients is higher than in non-elderly RA patients. More attention should be paid to the elderly RA patients who have chronic diseases. Activity Index is higher in elderly RA-ILD patients than the others. We should improve the pulmonary function of the elderly patients with RA-ILD as early as possible.


703745

Lymphadenopathy in patients with rheumatoid arthritis

L RIPACHEV, A ILIA, E TROFIMOV

North-Western State Medical University named after I.I. Mechnikov, Saint Petersburg, Russia

Objective: To examine lymphadenopathy (LAP) in patients with rheumatoid arthritis (RA) comparing to the disease activity.

Materials and methods: Of the 71 patients with active RA (DAS28 >3.1) and LAP have been observed during 12 months. There were counted numbers of enlarged and painful peripheral lymph nodes (LN) and were researched cases of enlarged thoracic and/or abdominal lymph nodes using radiological methods. All patients were underwent radiological investigation in order to evaluate a condition respiratory apparatus. All patients were treated according to national guidelines.

Results: In 64 cases (90.1%) LAP was generalized (involved two and more anatomic areas). Five patients (7%) had splenomegaly, five patients (7%) had enlarged thoracic (size <20 mm) and six patients (8.4%) had enlarged abdominal lymph nodes (size <15 mm). In 10 cases (14.3%) sizes of peripheral lymph nodes were above 25 mm. In all cases numbers of enlarged and painful lymph nodes had direct correlation with disease activity (DAS 28). In all patients infectious pathology was excluded. In one patient with LAP was found breast carcinoma. In all cases histological examination showed follicular hyperplasia with increased size and number of germinal centers (B-cells hyperactivity). Using methods of immunohistochemistry revealed no signs of oncology.

Conclusion: In patients with RA LAP is observed in about 40–80% cases. Most frequently LAP is a manifestation of RA itself, but it also can be caused by infectious diseases and oncology. Finding LAP in patient with RA requires biopsy with morphological and immunohistochemical investigation in order to perform a differential diagnosis.

703779

Clinical and radiographic analysis of cervical subluxations in rheumatoid arthritis patients

L LIN, B ZHANG, J ZHAO, R LIU, X DENG, Z YAO, X LIU

Department of Rheumatology and Immunology, Peking University Third Hospital, Beijing, China

Objective: To investigate the clinical and radiographic features of cervical subluxations from patients with rheumatoid arthritis.

Methods: The clinic, laboratory and imaging data from 68 RA patients, who were hospitalized in Peking University Third Hospital, with complain of cervical symptoms were retrospectively reviewed. The patients were divided into two groups according to the manifestation of cervical spine subluxations. Rheumatoid cervical spine was characterized by typical instability including “Anterior atlantoaxial subluxation (AAS), cervical subluxation (VS) and Subaxial subluxation (SAS)

Results: Of 68 RA patients with cervical symptoms were enrolled. Among the patients with cervical spine subluxations (n = 39), neck pain was a common symptom, accounting for 87.1% (34/39). Other symptoms were limb numbness (79.3%, 23/39), vertigo (34.8%, 15/39) and paresthesias (20.5%, 8/39). The proportion of limb numbness and CRP positive ratio in subluxation group were both significant higher than those without subluxation (P < 0.05). AAS was the most common manifestation pattern of cervical subluxation (54.8%, 37/39), and the incidence of VS was 17.9% (7/39), while SAS of the lower cervical vertebrae was rare (5.1%, 2/39). The ratio of bone destruction, spinal stenosis, spinal cord compression in image findings of subluxation group were higher than those from non-subluxation group (P < 0.05). Of 68 RA patients with cervical symptoms were enrolled. Among the patients with cervical spine subluxations (n = 39), neck pain was a common symptom, accounting for 87.1% (34/39). Other symptoms were limb numbness (79.3%, 23/39), vertigo (34.8%, 15/39) and paresthesias (20.5%, 8/39). The proportion of limb numbness and CRP positive ratio in subluxation group were both significant higher than those without subluxation (P < 0.05).

Conclusion: This study confirms that AAS is the most common cervical subaxial subluxation. Ranawat method, as well as CT and MRI, is recommended for better identification of such subaxial subluxations.


© 2012 Asia Pacific League of Associations for Rheumatology and Blackwell Publishing Asia Pty Ltd

49
Assessment of cardiovascular risk in patients with rheumatoid arthritis

H K Min

The Catholic University of Korea, Seoul, South Korea

Background: Rheumatoid arthritis (RA) is known to be an independent risk factor for cardiovascular (CV) disease. It is recommended to evaluate the increased CV risk based on CV risk prediction tools in patients with RA.

Methods: A cross-sectional survey of RA patients was performed to collect data on RA characteristics, metabolic and behavioral risk factors associated with CV disease, blood pressure, and lipid profiles. The prevalence of risk factors and 10-year CV risk using two scoring systems were calculated. Agreement with the result from another model was assessed by intraclass correlation (ICC) coefficient.

Results: Among 198 study population, 161 patients (81.3%) were women, and the mean duration of RA was 10.2 years. Thirteen patients (6.6%) were current smokers, and seven patients (3.5%) had a history of established coronary heart disease or stroke. The prevalence of hypertension, diabetes, dyslipidaemia, and obesity were 38.4% (n = 76), 11.6% (n = 23), 26.3% (n = 52), and 19.7% (n = 39), respectively. The median of 10-year CV risk from FRISC was 5.3% (range 0–30), whereas the result from SCORE system was 2% (range 0–10). ICC coefficient for evaluation of reliability was 0.395, indicating a weak correlation between two models.

Conclusions: RA patients have relatively high CV risk compared to the general population. Proper interventions according to the probability of CV disease is recommended and further investigation is required to validate CV risk prediction tools in patients with RA.


703799

Rheumatoid arthritis patients with higher disease severity and subclinical carotid plaque experience more cardiovascular events despite a favorable conventional cardiovascular risk profile

Y-A Lee, H-Y Yang, R Song, S-H Lee, S-J Hong, S Kim

School of Medicine, Kyung Hee University, Seoul, South Korea

Background: It has been shown that patients with rheumatoid arthritis (RA) experience cardiovascular (CV) events more often than expected. Increased risk of CV disease in RA patients cannot be fully explained by conventional CV risk factors. This raises the possibility that subclinical atherosclerosis by the systemic inflammatory burden in RA may bring about its high CV event rate by patients cannot be fully explained by conventional CV risk factors. This raises the possibility that subclinical atherosclerosis in RA may bring about its high CV event rate by the systemic inflammatory burden in RA.

Methods: A cross-sectional survey of RA patients was performed to collect data on RA characteristics, metabolic and behavioral risk factors associated with CV disease, blood pressure, and lipid profiles. The prevalence of risk factors and 10-year CV risk using two scoring systems were calculated. Agreement with the result from another model was assessed by intraclass correlation (ICC) coefficient.

Results: Among 198 study population, 161 patients (81.3%) were women, and the mean duration of RA was 10.2 years. Thirteen patients (6.6%) were current smokers, and seven patients (3.5%) had a history of established coronary heart disease or stroke. The prevalence of hypertension, diabetes, dyslipidaemia, and obesity were 38.4% (n = 76), 11.6% (n = 23), 26.3% (n = 52), and 19.7% (n = 39), respectively. The median of 10-year CV risk from FRISC was 5.3% (range 0–30), whereas the result from SCORE system was 2% (range 0–10). ICC coefficient for evaluation of reliability was 0.395, indicating a weak correlation between two models.

Conclusions: RA patients have relatively high CV risk compared to the general population. Proper interventions according to the probability of CV disease is recommended and further investigation is required to validate CV risk prediction tools in patients with RA.


703820

Salivary cortisol levels are elevated, but not salivary z-amylase levels in patients with rheumatoid arthritis irrespective of depression

H-A Kim1,2, C-B Bae1,2, JY Nam1,2, JY Jeon1,2, JY RIm2,3, S-B Park2,3, CH Shin1,2

1Department of Rheumatology, Ajou University School of Medicine, Suwon, South Korea, 2BK21 Division of Cell Transformation and Restoration, Ajou University School of Medicine, Suwon, South Korea, 3Department of Family Practice, Ajou University School of Medicine, Suwon, South Korea

Background: Stress is now recognized as an important factor in the etiology and progression of rheumatoid arthritis (RA). Therefore, we explored multiple aspects of stress in RA patients.

Methods: Salivary cortisol levels (μg/dL) and z-amylase levels (U/mL) were measured as a marker of the hypothalamic-pituitary-adrenal axis and sympathetic-adrenomedullary activity, respectively. Depression was assessed by the Beck Depression Inventory (BDI) and short-term analysis of the heart rate variability (HRV) was conducted to evaluate the autonomic nervous system.

Results: The salivary cortisol levels of the RA patients (0.12 ± 0.162 μg/dL) were significantly higher than those of the NC (0.068 ± 0.052 μg/dL, P = 0.006). There was no difference in salivary z-amylase levels. The BDI levels of the RA patients (13.6 ± 8.93) were significantly higher than those of the NC (6.44 ± 6.89, P < 0.001). Depression was also more prevalent in RA patients. The salivary cortisol levels were still significantly higher in RA patients than NC after controlling BDI by logistic regression analysis (P = 0.002). There was no significant difference in the HRV of RA patients and the NC. The evaluation of relations between stress measures and disease activity markers of RA revealed that only BDI was positively correlated with the visual analogue pain score.

Conclusion: Salivary cortisol levels and the BDI of RA patients were higher than those of the NC. Elevated salivary cortisol was independent of depression. However, the stress level may not be correlated with disease activity markers in RA.

703824

Periodontal disease is associated with rheumatoid arthritis (RA) but its severity is correlated with RA disease activity

IA Choi, EB Lee, EY Lee, J-H Kim, KH Kim, MJ Yoon, YW Song, YM Lee

Seoul National University, Seoul, South Korea

Background: The prevalence of periodontal disease is known to be increased in patients with rheumatoid arthritis (RA) compared to the general population. Patients with RA have diverse risk factors of periodontal disease such as use of steroid and immunosuppressants, disability with tooth-brushing in advanced disease and secondary Sjogren’s syndrome.

Objectives: We investigated whether periodontal disease is associated with RA and whether severity of periodontal disease is correlated with RA disease activity or disease characteristics.

Methods: We investigated 290 RA patients and 49 healthy controls. Clinical parameters including joint count and presence of erosive changes were evaluated and serum RA, anti-CCP antibody, CRP and ESP levels were measured. Number of teeth was checked. Subjects who had 15 or more teeth were evaluated for dental exam. Plaque index (PI) was evaluated as a marker of dental hygiene and gingival index (GI, scale of 0,1,2,3), probing pocket depth (PPD), bleeding on probing (BOP) and clinical attachment loss (CAL) were evaluated as index of periodontitis. Periodontitis was defined as mild (CAL 1–2 mm), moderate (CAL 3–4 mm) and severe (CAL ≥ 5 mm) by American Academy of Periodontology 2004 Classification.

Results: The mean number of teeth (±SD) in 290 RA patients and 49 healthy controls were 23.2 ± 6.9 versus 26.0 ± 3.8, respectively (P = 0.006). Among 290 RA patients, 27 patients (9.3%) had less than 15 teeth and 3 patients had ongoing dental care, both were excluded from the dental exam. Mean PI in 260 RA patients and 48 healthy controls were 0.84 ± 0.49 and 0.64 ± 0.31 (P = 0.006), mean GI 0.51 ± 0.43 versus 0.17 ± 0.18 (P < 0.001), mean PPI 1.56 ± 0.36 versus 1.79 ± 0.22 (P = 0.002), mean BOP 20.25 ± 15.43 versus 12.79 ± 10.11 (P = 0.001) and mean CAL 3.23 ± 0.77 versus 2.94 ± 0.49 (P = 0.014). The prevalence of moderate or severe periodontitis was significantly higher in RA patients compared to healthy controls (63.5% versus 39.9%, P = 0.002). Disease duration were associated with higher GI (r = 0.193, P = 0.002) and BOP (r = 0.147, P = 0.017). There was no significant association between severity of periodontitis and RA disease activity markers.

Conclusions: Patients with RA had more severe periodontitis index than healthy controls. Severity of periodontitis was associated with RA disease duration but not with disease activity.


© 2012 Asia Pacific League of Associations for Rheumatology and Blackwell Publishing Asia Pty Ltd
Rheumatoid lung disease and tuberculosis in a cohort of Sri Lankan patients with Rheumatoid Arthritis

J ATUKORALA1, C SOLANGARACHCHI1, PN WEERATUNGA1, LS WILVARSINE2, L WEERASEKERA3

1Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka, 2Department of Rheumatology and Rehabilitation (General), National Hospital Sri Lanka, Sri Lanka, 3Department of Rheumatology and Rehabilitation (Special), National Hospital Sri Lanka, Sri Lanka

Background: Rheumatoid arthritis (RA) is a chronic systemic inflammatory disease affecting the articular system. Pulmonary involvement in RA accounts for 10–20% of mortality contributing significantly to disease burden in late disease (1, 2, 3). There is evidence that RA patients are at a higher risk of developing tuberculosis (TB) (4). This is of current interest with the advent of biologics especially in Sri Lanka where 8500–9000 new cases of TB are diagnosed yearly (5). While the risk of LTBI in the E-RA criteria was 84.4%, which was much higher than that of 1987 ACR criteria (58.0%) based on the same cohort of early inflammatory arthritis patients, while the corresponding specificity of E-RA criteria was 92.3%, which was slightly decreased than that of 1987 ACR criteria (93.6%). The diagnostic value of the E-RA criteria was lower than that of 1987 ACR criteria.

Objectives: This study is aimed to assess the characteristics of RLD in a cohort of Sri Lankan patients with RA and attempts to identify an association between RLD and TB.

Methodology: This study was carried out in 231 consecutive patients with RA attending the tertiary care rheumatology clinics at the National Hospital of Sri Lanka. Data was collected using an interviewer administered questionnaire. Relevant data was also extracted from clinic records.

Results: The study population consisted of 231 patients (74.2% female) with a mean age of 53 years. The mean duration of symptoms was 4.7 years (SD). Of 54.4% of were rheumatoid factor positive and 99.1% had anodular disease. Of 12 (5.2%) were diagnosed with interstitial lung disease (ILD) attributed to RA. None had putative airway disease, pleural or pulmonary vascular disease. Only 6% of these patients had clinical evidence of interstitial lung disease. The majority of patients with interstitial lung disease (10/12) had bilateral reticular opacities, and 8/12 had ground glass opacities. High-resolution computerized tomography (HRCT) showed evidence suggestive of ILD in all patients. Pulmonary function testing showed a restrictive pattern in 10/12 patients with ILD. ILD was shown to be associated with a longer duration of disease (P < 0.030), prevalence of rheumatoid nodules (P = 0.048), higher ESR (P < 0.039), high RF (P = 0.020). There was no association with the gender of the patient. Of 4.8% of patients had a past history of pulmonary TB within 5 years of the diagnosis of RA. None of the patients developed active TB after commencing treatment for rheumatoid arthritis. There was no significant association between the past history of TB and subsequent ILD and none of the patients with ILD had features of pulmonary TB.

Conclusions: ILD was associated with duration of disease, presence of rheumatoid nodules, high ESR and high RF titres in our study population. There was no association between ILD and pulmonary TB in this cohort.


Altered levels of bone metabolism markers in rheumatoid arthritis

LJ ZHOU, XO YANG, L DAI, D-H ZHENG, YQ MO, X-N WEL CJ ZOU, BY ZHANG

Department of Rheumatology, Sun Yat-Sen Memorial Hospital, Sun Yat-Sen University, Guangzhou, China

Background and Objective: Rheumatoid arthritis (RA) is a chronic inflammatory disease leading to joint destruction and disability. Previous studies showed both generalized and peri-articular osteoporosis occur in RA. New biochemical markers of bone formation (i.e. osteocalcin, OCN) showed contradictory results in different studies, although markers of bone resorption (i.e. urinary collagen cross-links) have shown significant increase in patients with RA. This study aimed to evaluate serum levels of bone metabolism markers and their correlation with clinical and biological parameters that reflect the activity and severity of RA in RA.

Methods: Serum bone metabolism markers, including biochemical markers of bone formation (N-terminal propeptide of type I collagen, PINP and N-terminal midfragment of osteocalcin, N-MID), as well as markers of bone resorption (C-terminal telopeptide of type I collagen, N-CTX) were assessed by immunoassay on DXA-MA9, as well as 44 age and gender matched healthy controls. Correlational and clinical parameters that reflect the activity and severity of RA, as well as radiographic joint destruction (Sharp score) were collected and correlated with bone metabolism markers.

Results: Serum CTX-I level was significantly higher in RA patients compared with age and gender matched healthy controls (0.570 vs. 0.577 vs. 0.377 vs. 0.017, P = 0.021). No significant difference was found between RA patients and healthy controls in serum PINP or N-MID. OCN level. Spearman’s correlation test showed serum PINP and N-MID-OCP level of RA patients was correlated negatively with disease duration (r = 0.42; P < 0.06 and 0.045, respectively) and pain visual analogue scales (VAS) (r = −0.444 and −0.597, P = 0.039 and 0.003, respectively), but correlated positively with gripping power
We assessed the relationship between adipocytokines, insulin resistance and carotid atherosclerosis in patients with rheumatoid arthritis. Biochemical markers of bone formation PINP and N-MID, OC may be a helpful biomarker for disease activity in RA. Studies have shown that RA patients had increased intima-media thickness (IMT) of carotid artery. IMT is a morphologic marker for atherosclerosis, while endothelial dysfunction is a functional marker for it. Vascular endothelial dysfunction is the initial event of atherosclerosis. In this study, we sought function alevience of subclinical atherosclerosis in patients with RA.

Results: In RA patients, the levels of total cholesterol and HDL-cholesterol were lower than controls, and CRP, ESR, and Lp (a) were higher. EDV was decreased in RA patients compared with controls (8.2 ± 6.1% versus 10.1 ± 4.1%, P = 0.29), whereas EIV was not different (15.9 ± 7.1% versus 15.9 ± 8.4%, P = 0.60) between the two groups. The levels of CRP and Lp(a) were negatively correlated with EDV in RA patients (r = -0.38, P = 0.047 and r = -0.47, P = 0.023, respectively).

Conclusion: Our data suggest there is functional evidence of subclinical atherosclerosis in patients with RA.

Common carotid RI was independently associated with common carotid IMT after adjusting age, sex, conventional cardiovascular and metabolic risk factors (r = 0.38, P = 0.047 and r = -0.47, P = 0.023, respectively).