AB0335

THE CORRELATION OF CORRELATION OF TH17 AND TREG CELL LEVELS OF IN CORONARY HEART DISEASE PATIENTS WITH RHEUMATOID ARTHRITIS

Yue Teng Ma, Sheng Xiao Zhang. Department of rheumatology, the second hospital of shanxi medical university, Department of rheumatology, Taiyuan, China

Background: Rheumatoid arthritis (RA) is a prevalent chronic autoimmune inflammatory disease. Also acute coronary syndrome (ACS) is a prevalent chronic inflammatory disease. Now more and more studies have also shown that coronary heart disease is also associated with immune inflammation. We will discuss Th17 and Treg cell levels in patients with rheumatoid arthritis combined with coronary heart disease and simple rheumatoid joints as well as normal people. Its pathogenesis is closely associated with a failure of endogenous immune tolerance that caused by the imbalance of CD4/CD8. New T subgroup Th17 Treg, T lymphocytes play an important role in the occurrence and development of RA and ACS. Moreover, T lymphocytes are one of the first cells to be recruited into atherosclerotic plaques¹, and most adhesion molecules and chemokines that promote the migration of monocytes to the intima are also related to T cell recruitment. T lymphocytes mainly divided into two major subsets of CD4/CD8, including CD4⁺T helper cells, which are classified into Th1Th2 and newly discovered Th17 cells and regulatory T cells subgroup, have the effect of the immune response to promote the immune, and CD8⁺ play the role of killer cells and suppress the immune response. Similar to CD8, (Treg) lymphocytes can reduce the body's anti-tumor ability by inhibiting cell contact and the production of inhibitory factors and effector T cells

Objectives: Through clinical studies, we want to explore whether the proportion of Th17/Treg in peripheral blood of RA with ACS patients is reduced to indicate whether the immune balance is broken, thus providing further data for clinical studies

Methods: In April 2017 to September 2018 in our hospital Patients with RA and ACS diagnosed by Coronary angiography in our hospital of 20 cases male:9 female:12 into the research object, the diagnosis of ACS combined with clinical data of 20 patients as Observation group. These patients have been diagnosed with rheumatoid arthritis. Another 20 rheumatoid arthritis patients male: 11 female:9 were collected from the rheumatology department of our hospital, and 20 normal healthy people male:10 female:10 were collected from the physical examination center of our hospital, as control group

Chart-1

RA with ACS group

Chart-2

RA group

Control group

Results: Compared with the control group, the proportion of Th17 cells and Treg cells in peripheral blood of RA with ACS and RA groups increased and decreased respectively ($P < 0.05$). Compared with the RA group, the proportion of Th17 cells in the peripheral blood of RA with ACS group increased, while the proportion of Treg cells decreased ($P < 0.05$). The proportion of Th17 cells in RA with ACS group was higher than that in RA group and control group ($P < 0.05$). Th17/Treg ratio in control group, RA group, ACS and RA groups were respectively. Compared with the control group, Th17/Treg increased in the RA with ACS and RA groups, and the RA with ACS group was higher than the RA group, with statistically significant differences ($P < 0.05$), but the ratio between the RA group and the control group was not significant

Conclusion: Through this rare clinical study, it was found that the levels of Treg cells and Th17 cells in patients with rheumatoid arthritis combined with coronary heart disease were to some extent higher than those in patients with rheumatoid arthritis alone and normal healthy people. We can speculate whether it is possible to find a target for Treg cell Th17 cell levels in patients with RA with ACS expanding the sample study again, so as to intervene as early as possible and regulate the immune balance to avoid the progression of coronary heart disease and adverse cardiovascular events

REFERENCES

- Libby, P.; Ridker, P. M.; Hansson, G. K.; Leducq Transatlantic Network on, A., Inflammation in atherosclerosis: from pathophysiology to practice. J Am Coll Cardiol 2009, 54 (23), 2129-38.

Acknowledgement: None

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.7015

AB0336

COMPARATIVE ANALYSIS OF ESTIMATED BONE MASS AND BONE MINERAL DENSITY IN PATIENTS WITH RHEUMATOID ARTHRITIS FROM THE CHIKARA STUDY

Koji Mandai^{1,2}, Yutaro Yamada¹, Tatsuya Koike^{3,4}, Tadashi Okano¹, Noriaki Hidaka⁵, Masahiro Tada⁵. ¹Osaka City University Graduate School of Medicine, Orthopaedic Surgery, Osaka, Japan; ²Osaka Social Medical Center Hospital, Orthopaedic Surgery, Osaka, Japan; ³Osaka City University Graduate School of Medicine, Center for Senile Degenerative Disorders (CSDD), Osaka, Japan; ⁴Shirahama Hamayu Hospital, Search Institute for Bone and Arthritis Disease (SINBAD), Shirahama, Japan; ⁵Osaka City General Hospital, Orthopaedic Surgery, Osaka, Japan

Background: Patients with rheumatoid arthritis (RA) have lower muscle mass and a higher rate of sarcopenia than healthy individuals. The relationship between rheumatoid arthritis and bone loss is well known. Dual energy X-ray absorptiometry (DEXA) and bioelectrical impedance analysis (BIA) are used to diagnose sarcopenia, but the correlation between bone mineral density and estimated bone mass is unknown.

Objectives: To investigate the correlation between bone mineral density and bone mass in RA patients.

Methods: Data from a prospective observational study (CHIKARA study) were analyzed. Bone mineral density (BMD) was measured by DEXA, and bone mass was measured by BIA on the same day, and the correlations between BMD at each measurement site and bone mass were evaluated.

Results: A total of 90 RA patients (women, 83%; mean age, 67.2±12.1 years) were included. The median disease duration was 8.5 (interquartile range (IQR): 4.9, 17) years, the mean DAS28-ESR was 2.92±1.2, and the median MTX dose was 10 (IQR: 8, 12) mg/week. Nineteen patients (21%) used a biologic agent. There was a significant correlation between total hip BMD and bone mass ($r=0.64$, $p<0.001$). The details are shown in Figure 1. Bone mass was significantly correlated with femoral neck BMD ($r=0.62$, $p<0.001$), whole body BMD ($r=0.60$, $p<0.001$), and lumbar BMD ($r=0.49$, $p<0.001$). Bone mass was significantly lower by DEXA (1.9 ± 0.5 kg) than by BIA (2.0 ± 0.4 kg) ($P<0.001$).

Figure 1. Correlation between Bone mass and BMD

Figure 1

Conclusion: There was a significant correlation between bone mass by BIA and BMD by DEXA. Bone mass by BIA and total hip BMD had the strongest correlation. Bone mass is likely to be overestimated by BIA. Thus, we need to evaluate it with appropriate caution.

Disclosure of Interests: Koji Mandai: None declared, Yutaro Yamada Speakers bureau: Abbvie, Chugai, Mitsubishi Tanabe, Tatsuya Koike Speakers bureau: AbbVie, Astellas Pharma Inc., Bristol-Myers Squibb, Chugai Pharmaceutical, Eisai, Janssen, Lilly, Mitsubishi Tanabe Pharma Corporation, MSD, Ono Pharmaceutical, Pfizer, Roche, Takeda Pharmaceutical, Teijin Pharma, and UCB, Tadashi Okano Speakers bureau: AbbVie, Noriaki Hidaka: None declared, Masahiro Tada Speakers bureau: Abbvie, Astellas Pharma, Bristol-Myers Squibb, Chugai Pharmaceutical, Eisai, Janssen Pharmaceutical, Mitsubishi Tanabe Pharma Corporation, Ono Pharmaceutical, Pfizer Japan, Takeda Pharmaceutical

DOI: 10.1136/annrheumdis-2019-eular.1486

AB0337 IS THE RADIAL DEVIATION ASSOCIATED WITH MEDIAN NERVE SWELLING IN PATIENTS WITH RHEUMATOID ARTHRITIS?

Başak Mansız-Kaplan¹, Seçil Vural², Figen Ayhan¹. ¹University of Health Sciences, Ankara Training and Research Hospital, Physical Medicine and Rehabilitation, Ankara, Turkey; ²University of Health Sciences, Ankara Training and Research Hospital, Physical Medicine and Rehabilitation, Ankara, Turkey

Background: Rheumatoid arthritis (RA) and carpal tunnel syndrome (CTS) are known to be associated and also RA may lead to swelling of the median nerve without the presence of CTS.

Objectives: This study was conducted to test the hypothesis that one of the causes of this median nerve swelling may be radial deviation developing after wrist involvement of RA.

Methods: Of a total of 138 cases, 51 that met the inclusion criteria were included in the study. Electroneuromyography (ENMG) was performed on each patient and those with a CTS diagnosis were excluded from the study. Duruöz hand index, visual analog scale and painDETECT questionnaire was performed in clinical assessment. Radiographic measurements including radial inclination angle were performed with radiography. Using ultrasonography, the median nerve cross-sectional areas (CSAs) of the

patients were measured from the four levels of the distal 1/3 of the forearm, radioulnar joint, pisiform bone and hook of hamate, and the ulnar nerve CSAs were measured from the pisiform bone.

Results: The study completed with 102 hands of 51 patients. 27% of these RA patients without clinical and electrophysiological findings were diagnosed as CTS by ultrasonography. A negative correlation was found between the radial inclination (RI) and the median CSAs measured from the radioulnar joint ($R: -0.49$; $p: 0.00$), the pisiform bone ($R: -0.45$; $p: 0.00$), and hook of hamate ($R: -0.60$, $p: 0.00$). When the hands were divided into three groups according to the ranges of RI specified in the literature, the median nerve CSA was found to be significantly higher in the group with a low RI at these levels ($p < 0.001$).

Conclusion: The median nerve CSAs increased as the radial deviation increased in RA patients. The prevention of disease progression may prevent the increase in median nerve CSA by preventing deviations in patients with RA. And the development of CTS may also be prevented.

REFERENCES

- [1] Yagci I, Akdeniz Leblecicler M, Mansiz Kaplan B, Ozturk Gokbakan D, Akyuz G. Sonographic measurements can be misleading for diagnosis carpal tunnel syndrome in patients with rheumatoid arthritis. *Acta Reumol Port.* 2016;41:40-4
- [2] Joshua Broder. Diagnostic imaging for the emergency physician. Elsevier Health Science. Philadelphia, 2011; page 783.
- [3] Ito J, Koshino T, Okamoto R, Saito T. Radiologic Evaluation of the rheumatoid hand after synovectomy and extensor carpi radialis longus transfer to extensor carpi ulnaris. *J Hand Surg Am.* 2003;28(4):585-90.
- [4] Hammer BH, Hovden IA, Haavardsholm EA, Kristian Kvien T. Ultrasonography shows increased cross-sectional area of the median nerve in patients with arthritis and carpal tunnel syndrome. *Rheumatology (Oxford).* 2006;45(5):584-588.
- [5] Hammer BH, Haavardsholm EA, Kristian Kvien T. Ultrasonographic measurement of the median nerve in patients with rheumatoid arthritis without symptoms or signs of carpal tunnel syndrome. *Ann Rheum Dis.* 2007;66:825-7
- [6] Sakthiwarthy R, Singh R. Has the median nerve involvement in rheumatoid arthritis been overemphasized? *Rev Bras Reumol.* 2017;57(2):122,128.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.971

AB0338 ELDERLY ONSET RHEUMATOID ARTHRITIS AND POLYMYALGIA RHEUMATICA: COMPARATIVE CLINICAL STUDY

Melania Martínez-Morillo, Águeda Prior-Español, Anahy Brandy-García, Susana Holgado Pérez, María Aparicio-Espinar, Laia Gifre, Anne Riveros-Frutos, Clara Sangüesa-Gomez, Jordi Camins-Fàbregas, Ivette Casafont-Solé, Annika Nack, Alejandro Olive, Lourdes Mateo Soria. *Hospital Universitari Germans Trias i Pujol, Rheumatology, Badalona, Spain*

Background: Polyarthritis at the elderly people usually has a similar onset with an acute inflammatory character and scapular girdle involvement. Differentiating elderly onset rheumatoid arthritis (EORA) and polymyalgia rheumatica (PMR) can be a diagnostic challenge.

Objectives: To analyse the clinical and analytical differences between EORA and PMR.

Methods: Longitudinal observational study of patients older than 60 years newly diagnosed with EORA (ACR/EULAR 2010) and PMR (ACR/EULAR 2012). Inclusion: consecutive and voluntary. Follow-up time: 12 months. A single rheumatologist made all follow-up visits. The clinical-epidemiological and analytical characteristics were collected. The statistical study was performed with Stata 15.1.

Results: 45 EORA were recruited (53% women; mean age 74.8 ± 7.5) and 20 PMR (85% women; mean age 76.6±5.0).

75% of EORA had scapular girdle involvement, but only 44% of the pelvic girdle. All had peripheral arthritis, and the small joints of the hands were involved in 93.3%, with edema in 46.7%. Forty percent of EORA patients were seropositive (RF > 20 IU/mL and/or ACPA > 20 U/mL): 33% RF positive (132.8 ± 126 IU/mL), 28.9% for ACPA (2 cases [15.4%] from 100 to 250 U/mL and 11 cases [84.6%] above 250 U/mL) and in 10 patients [22.2%] double positive). All patients with PMR patients had shoulder girdle involvement and 90% of the pelvic girdle. None of them had peripheral arthritis. RF was positive in one patient (73 IU/mL) and ACPA in 2 patients (titers between 20-40 U/mL). No patient was double positive. Table 1 and 2.