(90.7±56.5 pg/ml; 68.8±37.7 pg/ml) ($p<0.05$). Correlation analysis showed a significant positive correlations between TREM-1 and DAS-28 scores ($p<0.05$). In the RA group, while TREM-1 levels (127.9±61.7 pg/ml vs 198.4±105.7 pg/ml) were significantly reduced by methotrexate intake, but presence of severe periodontitis resulted in higher TREM-1 and PGLYRP1 ($p<0.05$).

Conclusion: The present study demonstrated that there is an increased levels of TREM-1 and PGLYRP1 in serum of patients with RA which is further potentiated by periodontitis. Moreover, TREM-1 correlates with clinical disease activity. MTX therapy of patients with RA is accompanied by reduced TREM-1 levels in serum.

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THU0082

EFFECT OF TREAT-TO-TARGET STRATEGY ON DISEASE ACTIVITY AND RADIOLOGIC OUTCOMES IN RHEUMATOID ARTHRITIS: RESULTS FROM A 9-YEAR CHINESE COHORT

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Background: Treat-to-target (T2T) strategy has been implied in clinical practice for 9 years. However, a recent study showed that the radiologic outcome didn't associate with the adherence to protocolized treatment in clinical practice[1]. Furthermore, in clinical practice, nonadherence to a T2T protocol has been reported[2]. The reasons varied. In our previous study, there was a substantially decrease of RA activity over 8 years after tight control applied[3]. However, whether T2T strategy can improve the long term radiographic outcomes in daily practice is still unknown.

Objectives: the aim of our study was to determine the effect of treat to target (T2T) protocol on disease activity and radiographic outcomes in a 9-year Chinese RA cohort.

Methods: RA patients who were followed-up for more than 1 year in a longitudinal observational cohort were included in our study. The adherence rate of the patients was evaluated by the calculation of the percentage of whether the patients followed the time schedule to clinic. Adherence rate ≥ 0.7 was defined as adherent to T2T. The overall disease activity was evaluated by time adjusted mean (TAM) method. The radiological change was evaluated by radiographies of the hands regularly, with the interval between 1 and 3 years. We defined the primary radiological outcome as Δ modified total Sharp score (mTSS) >3 over the follow-up time.

Results: There were 209 patients enrolled in our study. The median interval of two radiographies was 31.0 (17.0, 50.0) months. 45.0% of patients got clinical remission using TAM DAS28(ESR) and 25.4% of patients got the radiological outcome. Adherence rate was significantly negatively correlated with the mean disease activity [β coefficient=-0.423 (-0.540, -0.298), $p=0.000$, using DAS28ESR]. Moreover, adherent to T2T and baseline high disease activity (HDA) were independent predictors of radiological outcome [adherent to T2T: HR=0.47 (0.27, 0.82), $p=0.007$; baseline HDA: HR= 2.04 (1.16, 3.62), $p=0.014$] (Figure 1). As for bone erosion aspect, besides baseline HDA and adherent to T2T, baseline bone erosion existing also independently associated with erosion progression [HR=1.90 (1.12, 3.23), $p=0.018$]. When divided the adherence rate into three subgroups, we can find that patient not following the T2T protocol were more easily to get radiological progression. There was statistically significant difference among three groups ($p=0.004$ using log rank, and $p=0.001$ using Tarone ware). To our surprise, increased adherence rate didn't provide more benefit when adherence rate was more than 0.9 (Figure 2). In patients who got overall clinical remission, we found none of these variables correlated with the radiological outcome.

Conclusion: The mTSS progression was associated with baseline HDA and adherence rate, independently. Adherence to T2T strategy may improve the remission probability and halt the radiological deterioration, especially in the patients who didn't get clinical remission.

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Figure 1 Predictors of radiological outcome by the multivariate COX regression. HDA, high disease activity; DMARDs, disease modifying anti-rheumatic drugs; T2T, treat to target (adherence rate ≥ 0.7).

Abstract THU0082 – Figure 1

The survival curve of mTSS progression in three different adherence groups

Figure 2 The survival curve of patients having radiological progression in different adherence rate groups. Patient whose adherence rate < 0.7 were more easily to get Δ mTSS > 3 . There was statistically significant difference among three groups ($p=0.004$ using log rank, and $p=0.001$ using Tarone ware).

Abstract THU0082 – Figure 2

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THU0083

ROLE OF CLINICAL IMPACT, DISEASE-SPECIFIC KNOWLEDGE AND BELIEFS ABOUT MEDICATION ON THERAPEUTIC ADHERENCE IN RHEUMATOID ARTHRITIS: AN INTEGRATIVE STRUCTURAL EQUATION MODELING APPROACH

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Background: Treatment of rheumatoid arthritis (RA) to remission is the optimal way to ensure control of symptoms, prevention of structural damage, optimization of function and quality of life. Adherence to medical treatment is, therefore, an integral part of a comprehensive and successful management of RA.

Objectives: We interrogated the influence of three distinct domains of RA clinical impact (disease activity, functional limitations, mood disturbance), patient specific knowledge about RA and beliefs about medications on treatment adherence.

Methods: We evaluated 285 patients with established RA from a single center. In the proposed model, disease activity DAS28(CRP), mood disturbance (Patient Health Questionnaire-9 depression scale and SF-36 Mental Health domain), functional limitations (Health Assessment Questionnaire Disability Index and SF-36 Physical Function domain) and RA-specific knowledge (Patient Knowledge Questionnaire) were expected to predict beliefs about the necessity of RA medications and concerns about them (Beliefs about Medicines Questionnaire) which, in turn, would impact adherence (Simplified Medication Adherence Questionnaire). Cross-sectional multi-group structural equation modeling evaluated the model separately in patients treated with bDMARDs and those only receiving csDMARDs.

Results: RA-specific knowledge was not significantly associated with medication beliefs or adherence and therefore was dropped from the model. Modification indices suggested addition of two supplementary paths (dashed lines) that significantly improved the proposed model fit for both