Abstract THU0169 – Table 1. The character of frailty, pre-frailty, and normal in patients with RA

	Frailty	Pre-frailty	Normal	P value
Age, years	72.5±10.3	68.6 ±11.3	60.7 ±16.4	0.01
Leg muscle score	84.9±5.9	86.2±6.4	93.2±9.7	<0.001
Grip, kg	12.6±6.9	17.7±7.1	18.1±6.2	0.013
Locomotive 5 score	11.1±5.8	6.4±4.9	2.6±4.0	<0.001
MMP3, ng/dl	143.7 ±122.0	95.9 ±66.0	88.6 ±52.0	0.033
DAS28ESR	3.62±0.97	3.27 ±1.02	2.83 ±0.96	0.015
mHAQ	0.9±0.7	0.4±0.2	0.1±0.1	<0.001
Sarcopenia, %	39	41	18	0.063

Conclusions: It was revealed that frailty involved disease activity and physical function in patients with RA. Control of disease activity is important to prevent not only disease progression, but also frailty.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.1807

THU0170 RISK FACTOR FOR SERIOUS PULMONARY COMPLICATION IN PATIENTS WITH PRE-EXISTING LUNG DISEASE IN RHEUMATOID ARTHRITIS

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Background: Lung diseases, such as airway disease and interstitial lung disease (ILD), are often complicated in patients with rheumatoid arthritis (RA). The presence of those pre-existing lung diseases is one of the poor prognostic factors and risk factors for infectious pneumonia in patients with RA. There have been several concerned issues regarding pulmonary complications in RA patients with pre-existing lung diseases during treatment with disease-modifying antirheumatic drugs (DMARDs) because of infectious pneumonia or acute exacerbation in ILD, occasionally resulting in fatal outcome.

Objectives: We identified risk factors for serious pulmonary complications in patients with pre-existing lung disease during treatment with DMARDs in RA.

Methods: This study enrolled consecutive 487 RA patients at our hospital from 2005 to 2016 retrospectively. 110 of those 487 patients had pre-existing lung disease at the first visit to our hospital. At first, we divided those 110 patients into two subsets, one with development of serious pulmonary complication and the other without that during observational periods. We defined hospitalisation due to lung disease as a serious pulmonary complication regardless of the causes. Demographic and clinical data at enrollment as well as treatment regimens were collected by review of medical charts. We conducted a univariate analysis to compare the differences of clinical characteristics between the subsets. In multivariate analysis, the Cox proportional hazard model was employed to identify factors independently associated with serious pulmonary complication. The explanatory variables were chosen based on candidates ($p < 0.25$) identified by the univariate analysis. In addition, we focused on 42 RA patients during treatment

with biological DMARD (bDMARD), and identified their risk factors by the same procedure mentioned above.

Results: In 110 RA patients with pre-existing lung disease, the median age and disease duration at enrollment was 70 and 3 years, and 71% were female. Rheumatoid factor and anti-cyclic citrullinated protein antibody (anti-CCP) were detected in 97 (88%) and 95 (86%) patients. Methotrexate (MTX), sulfasalazine (SSZ), bDMARDs and corticosteroid were prescribed in 37 (34%), 48 (44%), 42 (38%) and 65 (59%) patients. During the median observation periods of 11 months, 17 (15%) patients had serious pulmonary complications due to pulmonary infection in 11, exacerbation of ILD in 5, and drug-induced pneumonia in 1. The univariate analysis identified candidate variables for serious pulmonary complications as follows: use of MTX and bDMARDs, and no use of SSZ. In multivariate analysis, use of bDMARDs (HR 2.9, 95% CI 0.99–9.0; $p = 0.05$) was identified as the independent risk factor. In 42 patients during treatment with bDMARDs, the univariate analysis identified candidate variables as follows: elder age, male, higher levels of anti-CCP, use of MTX, and no use of SSZ. In multivariate analysis, the higher levels of anti-CCP (HR 1.002, 95% CI 1.0003–1.004; $p = 0.0007$) and no use of SSZ (HR 441.8, 95% CI 1.1–4658460.2; $p = 0.04$) were identified as the independent risk factors.

Conclusions: Serious pulmonary complications should be more careful for RA patients with pre-existing lung disease during treatment with bDMARDs, particularly those with higher levels of anti-CCP or no use of SSZ.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3402

THU0171 IDENTIFICATION OF METHOTREXATE-INDUCED PULMONARY TOXICITY CASES IN A FULLY SEARCHABLE ROUTINE CLINICAL DATABASE

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Background: Methotrexate (MTX) remains the favoured disease-modifying anti-rheumatic drug for the treatment of rheumatoid arthritis (RA) and is frequently used in other inflammatory conditions. However, side effects are frequent and toxicity is of concern, especially since MTX-induced pulmonary side effects, including pneumonitis, are potentially fatal. Estimates of MTX-induced pneumonitis in the literature range from 0.3% to 7.5% of exposed cases (Barrera et al., 1994 Kremer et al., 1997).

Objectives: We aimed to identify and characterise MTX-induced lung injury in patients exposed to low-dose MTX at the Rheumatology Division of the Kantonsspital Aarau, Switzerland.

Methods: The revised diagnostic criteria for adverse pulmonary events due to MTX treatment as defined by Kremer et al 1997 were used to categorise MTX-induced lung injury. The electronic patient files of the Rheumatology Division are stored in a NoSQL-database (MongoDB), which is fully addressable by the Solr search platform (Apache Lucene). The entire database was searched for terms associated with methotrexate exposure and potential pulmonary side effects.

Results: Of 9'550 cases, 11 fulfilled the criteria for definite MTX-induced pulmonary injury, while three additional patients could be classified as suffering from probable MTX-induced pulmonary side effects. To determine the number of exposed cases, the case files were queried for the mention of MTX and related terms. 1'947 case files contained a reference to MTX. In a random sample of 395 of these cases, an exposure to MTX was verified in 328 (83%). Assuming a calculated exposure of 1'639 cases, MTX-induced lung injury was present in 0.85%.

Conclusions: In a comprehensive survey of patients exposed to MTX in a fully searchable routine clinical database, MTX-induced pulmonary injury occurred in a low frequency.

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Acknowledgements: Urs Rutschi, Stefan Hubeli, Alex Souza, Iterata AG, Gränichen, Switzerland, for assistance with data extraction strategies.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7126