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Table 1. Demographic characteristics.

	RA (n=92)	Control (n=92)	p
Women, n (%)	85 (92.4)	85 (92.4)	NS
Age, years ± SD	58.0 (55.0-63.0)	56.5 (54.0-61.0)	NS
T2DM, n (%)	17 (18.5)	15 (16.3)	NS
Hypertension, n (%)	33 (35.9)	33 (35.9)	NS
Dyslipidemia, n (%)	30 (32.6)	29 (31.5)	NS
Obesity, n (%)	30 (32.6)	31 (33.7)	NS
Active smoking, n (%)	11 (12.0)	20 (21.7)	NS
	RA patients with CP (n=39)	RA patients without CP (n=53)	p
Women, n (%)	36 (92.3)	49 (92.5)	NS
Age, years ± SD	60.13 ± 5.98	58.08 ± 7.00	NS
T2DM, n (%)	9 (23.1)	8 (15.1)	NS
Hypertension, n (%)	16 (41.0)	17 (32.1)	NS
Dyslipidemia, n (%)	13 (33.3)	17 (32.1)	NS
Obesity, n (%)	15 (38.5)	15 (28.3)	NS
Active smoking, n (%)	6 (15.4)	5 (9.4)	NS
Disease duration, years (p25-p75)	8.44 (3.00-15.50)	12.86 (4.66-19.66)	NS

NS, no significant; T2DM, type 2 diabetes mellitus; CP, carotid plaque.

Figure 1. Comparison of pulse pressure between RA and controls and, RA with and without carotid plaque

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POS0563

THE NATURAL COURSE OF RHEUMATOID ARTHRITIS-ASSOCIATED INTERSTITIAL LUNG DISEASE FOCUSING ON LUNG PHYSIOLOGY AND DISEASE ACTIVITY: A PROSPECTIVE COHORT STUDY (PART 2)

S. H. Chang¹, J. S. Lee², J. S. Lee³, C. H. Park⁴, M. U. Kim⁵, Y. J. Ha⁶, E. H. Kang⁶, Y. A. Lee⁷, Y. Park⁸, J. Y. Choe⁹, E. Y. Lee¹⁰ on behalf of Korean Rheumatoid Arthritis Interstitial Lung Disease (KORAIL) cohort study group.
¹Soonchunhyang University College of Medicine, Division of Rheumatology, Department of Internal Medicine, Cheonan, Korea, Rep. of (South Korea);
²Clinical Research Center, Asan Institute for Life Sciences, Asan Medical Center, Department of Medical Statistics, Seoul, Korea, Rep. of (South Korea);
³GENOME INSIGHT Inc., -, Seoul, Korea, Rep. of (South Korea);
⁴Soonchunhyang University College of Medicine, Department of Radiology, Cheonan, Korea, Rep. of (South Korea);
⁵SMG-SNU Boramae Medical Center, Department of Radiology, Seoul, Korea, Rep. of (South Korea);
⁶Seoul National University Bundang Hospital, Division of Rheumatology, Department of Internal Medicine, Seongnam, Korea, Rep. of (South Korea);
⁷Kyung Hee University College of Medicine, Division of Rheumatology, Department of Internal Medicine, Seoul, Korea, Rep. of (South Korea);
⁸Yonsei University College of Medicine, Division of Rheumatology, Department of Internal Medicine, Seoul, Korea, Rep. of (South Korea);
⁹Catholic University of Daegu College of Medicine, Division of Rheumatology, Department of Internal Medicine, Daegu, Korea, Rep. of (South Korea);
¹⁰Seoul National University College of Medicine, Division of Rheumatology, Department of Internal Medicine, Seoul, Korea, Rep. of (South Korea)

Background: Interstitial lung disease (ILD) is a severe extra-articular manifestation of rheumatoid arthritis (RA). However, the effect of RA disease activity on the course of ILD is not yet known.

Objectives: To assess the natural course of lung physiology of RA-ILD and the relation between arthritis activity and pulmonary physiology in patients with RA-ILD.

Methods: The Korean Rheumatoid Arthritis ILD (KORAIL) cohort is the prospective observational cohort and aims to investigate the natural course of RAILD. Based on either 1987 or 2020 ACR criteria, patients diagnosed with RA and ILD based on CT scan were recruited from six tertiary medical hospitals in Korea since January 2015. RA disease activity was assessed using disease activity (DAS)28-ESR and CRP, annually. Pulmonary function tests (PFT), including FVC and DLCO were conducted annually. According to the transition of DAS28-ESR status, we classified patients into four groups: Group A. persistent remission or low disease activity, Group B. improvement, Group C. worsening, Group D. persistent moderate to high disease activity.

Results: We analyzed 143 patients who completed a 2-year follow-up (visit 2) or had died with available PFT results at least twice. Mean duration since RA diagnosis and since ILD diagnosis was 7.6±8.0 and 2.7±3.1 years, respectively. Twenty-four patients were Group A, 33 Group B, 10 Group C and 30 Group D. The mean of FVC (mL) and % of the predicted value in FVC was significantly lower in Group D than in other groups (Table 1). The annual rate of decline in FVC was -42 (95% CI -93~-10) mL-year⁻¹ in Group B while -113 (95% CI -206~-21) mL-year⁻¹ in Group C (Figure 1A). The annual decline rate in Group C was further exaggerated in patients with ≥ 80% of FVC predicted (-141, 95% CI -251~-32 mL-year⁻¹). During two years of follow-up, patients ever experienced a relative decline of ≥10% from the enrollment in FVC predicted was 27.3% (n=9/33) in Group B whereas 30.0% (3/10) in Group C. The annual rate of decline in % of DLCO predicted value was also the largest in Group C (-4.6 %·year⁻¹, 95%CI -8.5~-0.7), which further exaggerated in patients with ≥ 80% of FVC predicted (-4.9%·year⁻¹, 95 %CI -8.3~-1.5, Figure 1B). Of note, about half of patients with maintained not only low disease activity (Group A) but also moderate to severe disease activity (Group D) improved in DLCO at least 10% or more from the enrollment of DLCO predicted value (Group A: 54.2%, n=13/24, Group D: 46.7%, n=14/30).

Conclusion: RA disease activity is associated with the change of lung physiology in patients with RA-ILD; worsening disease activity associated with a further decrease of annual change in FVC and maintaining low disease activity associated with a further increase of annual change in % of DLCO predicted value.

Table 1. The analysis of forced vital capacity (FVC) according to disease activity transition group.

	Group A	Group B	Group C	Group D
FVC (mL), mean±SD	2810.0±771.1	2528.8±735.3	2801.0±952.7	2048.3±575.7
FVC % of predicted, mean±SD	87.5±14.5	86.5±16.6	93.0±15.6	77.2±17.3
Rate of FVC decline, mL-year ⁻¹ (95% CI)	-52 (-112, 7)	-42 (-93, 10)	-113 (-206, -21)	1 (-52, 54)
A 10-point decline from V1 in predicted FVC value, n (%)	29 (20.3)	6 (25.0)	6 (18.2)	3 (30.0)
Relative decline of 10% from the enrollment in predicted FVC value, n (%)	35 (24.5)	5 (20.8)	9 (27.3)	3 (30.0)

Figure 1. The annual change of pulmonary physiology according to disease activity transition group.

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POS0564

THE EFFECT OF ARTHRITIS TREATMENT ON THE COURSE OF RHEUMATOID ARTHRITIS-ASSOCIATED INTERSTITIAL LUNG DISEASE FOCUSING ON BIOLOGIC DMARDS: FROM A PROSPECTIVE COHORT STUDY (PART 5)

S. H. Chang¹, J. S. Lee², J. S. Lee³, C. H. Park⁴, M. U. Kim⁵, Y. J. Ha⁶, E. H. Kang⁶, Y. A. Lee⁷, Y. Park⁸, J. Y. Choe⁹, E. Y. Lee¹⁰ on behalf of Korean Rheumatoid Arthritis Interstitial Lung Disease (KORAIL) cohort study group.