switch is higher than a historical cohort of etanercept reference drug. This is expected, since it is a selected group of etanercept responders. The interpretation of the results should be cautious, since only few patients are included in this first analysis. A larger number of patients from other participating out-patient clinics is planned to be included.

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SAT0147

EFFECTS OF BIOLOGICAL DISEASE-MODIFYING ANTI-RHEUMATIC DRUG TREATMENT ON PHYSICAL ACTIVITY, MUSCLE POWER, AGILITY AND INHIBITION OF FALL IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: It has been demonstrated that biological DMARDs (bDMARDs) treatment rapidly improved sign and symptom in patients with rheumatoid arthritis (RA). Those were evaluated using composite measures or biomarkers in daily clinical practice or clinical studies. Although rapid improvement of composite measures or biomarkers is important in the treatment of RA, primary important goal of treatment is improvement of long term health-related quality of life (HR-QOL) [1]. HR-QOL is based on physical function such as muscle power and agility.

Objectives: This study investigated the efficacy of bDMARDs on physical function and fall risk in patients with RA.

Methods: Periodic evaluation of physical function by the staffs in rehabilitation center in our institute has been performed in addition to routine rheumatology evaluation (SDAI, biomarkers, mHAQ) in RA patient initiated their first bDMARDs treatment from Oct. 2015 to Feb. 2018. 47 cases was registered in total. Evaluation of physical function included evaluation of muscle power (grasping power [GP] and knee extension power [KEP]), agility (Time up and go test [TUG] and 10m walking time [10mW]) and questionnaire using mHAQ, portable fall risk index [2] and the 25-question geriatric locomotive function scale (locomo25) [3] at baseline (initiation of bDMARDs), 1month, 3months, 6months and 12months. Disease activity of RA (SDAI, CRPMMP-3) was evaluated at same time point. Although 26 cases have passed one year from initiation of bDMARDs treatment, 9 cases dropped out from evaluation of physical function due to stopping of bDMARDs treatment or patient's hope not to be evaluated on physical function or major joint surgery performed in patient which was influence physical function. Results of early 17 cases who completed evaluation at 12 months were investigated in this study.

Results: Baseline patients characteristics was as follow (n=17): mean age 59.1 years old, RA duration 13.7 years, Mean SDAI 19.6, mean CRP 1.9mg/dl. Used bDMARDs were tocilizumab in 5 cases, golimumab in 4 cases, etanercept in 3 cases, abatacept in 3 case, certolizumab in one case and infliximab-biosimilar in one case. Data is presents as mean values at baseline-1-3-6-12 months below. SDAI and CRP were significantly improved on and after one month (SDAI: 19.6-9.6-5.8-5.7-5.5, CRP [mg/dl]: 1.9-0.3-0.3-0.3-0.8). GP and knee extension power significantly improved on and after one months except KEP at 3 months (GP [kg]: 12.3-14.1-15.9-16.9-17.4, KEP [N/kg]: 2.6-3.1-3.1-3.4-3.5). TUG at 10mW significantly improved on and after one months except TUC at 3months and 10mW at 3 months (TUG [s]: 9.3-8.0-8.2-7.3-7.4, 10mW[s]: 8.3-7.7-7.5-6.9-6.8). MHAQ significantly improved on and from 6 months (0.46-0.33-0.19-0.20-0.12). Locomo25 significantly improved on and from 1 month (31.7-20.6-18.5-16.7-15.0). Portable fall risk index significantly improved at only 12 months (8.8-8.6-7.8-7.8-6.8).

Fig1. Mean values and p-value by bDMARDs Treatment in RA Patients

	Baseline	1 month	3 months	6months	12months
SDAI	19.6 (Cont.)	9.6 (<0.01)	5.8 (<0.01)	5.7 (<0.01)	5.5 (<0.01)
CRP (mg/dl)	1.9 (Cont.)	0.3 (<0.01)	0.3 (<0.01)	0.3 (<0.01)	0.8 (<0.01)
Grasping Power (kg)	12.3 (Cont.)	14.1 (0.049)	15.9 (0.01)	16.9 (<0.01)	17.4 (<0.01)
KEP (N/kg)	2.6 (Cont.)	3.1 (0.02)	3.1 (0.21)	3.4 (<0.01)	3.5 (<0.01)
TUG (second)	9.3 (Cont.)	8.0 (0.03)	8.2 (0.055)	7.3 (0.01)	7.4 (0.02)
10mW (second)	8.3 (Cont.)	7.7 (0.02)	7.5 (0.14)	6.9 (<0.01)	6.8 (<0.01)
mHAQ	0.46 (Cont.)	0.33 (0.12)	0.19 (0.02)	0.20 (<0.01)	0.13 (<0.01)
locomo25	31.7 (Cont.)	20.6 (0.03)	18.5 (<0.01)	16.7 (<0.01)	15.0 (<0.01)
Fall risk index	8.8 (Cont.)	8.6 (0.83)	7.8 (0.16)	7.8 (0.12)	6.8 (<0.01)

Data is expressed as mean (p-value). P-value was calculated using Wilcoxon signed-rank test between baseline and each month.

SDAI: simplified disease activity index, KEP: knee extension power, TUG: timed up and go test, 10mW: 10m walking time, mHAQ: modified health assessment questionnaire

Conclusion: Signs and symptoms of RA were rapidly improved after the initiation of bDMARDs treatment and improvement of physical function was also rapidly improved. The changes from baseline and one month were more drastic in composite measure or biomarker of inflammation than that in muscle power and agility in respect with p-values. Inhibition of fall were achieved 12 months after bDMARDs initiation. These results suggested that physiotherapy might play an important role in RA patients treated with bDMARDs to gain more rapid improvement of physical function.

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SAT0148

IMMUNOGLOBULIN A LEVELS IN ADDITION TO RHEUMATOID FACTOR PREDICTS REMISSION ACHIEVEMENT WITH ABATACEPT IN PATIENTS WITH EARLY RHEUMATOID ARTHRITIS

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Background: Biological disease modifying antirheumatic drugs (bDMARDs) now play an important role of clinical practice for patients with rheumatoid arthritis (RA). Abatacept (ABT) has a biologic agent that has an unique mechanism of action suppressing T lymphocyte activation. Although many prediction studies about therapeutic responses to bDMARDs for RA have been conducted to date [1], few studies has focused on ABT.

Objectives: The aim of this study was to identify predictive clinical biomarkers for remission achievement with ABT in RA patients.

Methods: We retrospectively reviewed consecutive patients with RA who started ABT from 2010 through 2018 in Keio University Hospital. We defined early ABT use as the initiation of ABT within two years from diagnosis without radiographic progression in hand X rays, and stratified the patients into the early ABT users and the late ABT users. Baseline characteristics were compared between patients who achieved CDAI remission achievement at 6 months and those who did not in both groups.

Results: One hundred and seven RA patients who were treated with ABT with baseline information available were enrolled in the study. Among them, 15 patients were classified into the early ABT users and 92 were the late ABT users, and the remission rates at 6 months were 40% and 24%, respectively. In the early ABT users, patients who achieved CDAI remission at 6 months showed significantly higher IgA levels than those who did not achieve remission (390 mg/dL vs 279 mg/dL, P=0.04, respectively). The difference in IgA disappeared in the late ABT users (332 mg/dL vs 313 mg/dL, P=0.60, respectively). Principal component analysis revealed that in the early ABT users, patients who