line matched pairs of TNFi and ABA pts, respectively, in ACPA- cohort; Table 1). In the biologic-experienced pts, ABA (vs TNFi) had a higher reduction in CDAI score (10.2 vs 5.2, $p=0.035$; Table 2). In the biologic-experienced ACPA+ pts, ABA (vs TNFi) had higher reduction in disease activity (CDAI: 13.3 vs 6.2, $p=0.023$; Table 2; SDAI: 13.9 vs 7.0, $p=0.046$). No difference in disease activity was observed between the two groups among the ACPA- pts.

Conclusion: Real-world RA registry data further confirm findings from the AMPLE study that the overall efficacy of ABA is similar to TNFi agents in biologic-naïve pts with RA. Efficacy of ABA (vs TNFis) in biologic-experienced pts is greater, and greater reductions in joint disease activity in ACPA+ ABA (vs TNFis) pts were observed.

REFERENCES

- [1] Brigham and Women's Hospital. BRASS. <https://www.brasstudy.org/>. Accessed September 12, 2018.
- [2] Alten R, et al. *RMD Open* 2017;3:e000538.

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AB0374 ADALIMUMAB DISCONTINUATION IN PATIENTS WITH RHEUMATOID ARTHRITIS AFTER ACHIEVING SUSTAINED REMISSION

Natalia Demidova¹, Natalia Savushkina², Elena Galushko³, Andrey Gordeev³. ¹V.A.Nasonova Research Institute of Rheumatology, early arthritis, Moscow, Russian Federation; ²V.A.Nasonova Research Institute of Rheumatology, early arthritis, Moscow, Russian Federation; ³V.A.Nasonova Research Institute of Rheumatology, early arthritis, Moscow, Russian Federation

Background: the most important factor in the progress of pharmacotherapy of RA was the widespread implementation of therapy with biological disease-modifying antirheumatic drugs (bDMARD). Recently, the issues of optimizing the management of patients have attracted more and more attention. First of all, we are talking about the possibility of reducing the dose and the abolition of bDMARD with the maintenance of remission ("biological-free remission").

Objectives: to assess whether adalimumab (AD) can be gradually discontinued during continuous methotrexate (MTX) use in patients with early rheumatoid arthritis (ERA).

Methods: Within the REMARCA (the Russian study of methotrexate and biological agents in early active arthritis) study, the investigators examined 20 patients (17 women and 3 men; median age, 51 [41.5; 56] years) with ERA (disease duration, 10 [5.5; 20] months; DAS28, 5.17 [4.37; 6.51]; 85% of the patients were seropositive for rheumatoid factor and 85% for anti-cyclic citrullinated peptide antibodies).

All the patients received subcutaneous MTX 25 mg/week. Twelve weeks after beginning therapy with MTX, due to its inefficiency, ADA was added according to the standard scheme. Clinical and laboratory data was analyzed just before the therapy (point-3 months), then at the term of 6 (n=20), 12 (n=17), 24 (n=17) and 36 (n=17) months. To assess the effectiveness of therapy, indices of activity DAS28, CDAI and SDAI were used. The everyday life functioning of the patient was assessed quantitatively using the Russian version of the HAQ questionnaire.

Results: At week 24, with the combined therapy of methotrexate and adalimumab, about 75% of patients have reached remission/low disease activity: the median DAS28 was 3.0 [1.65; 3.73]; 85% of the patients achieved remission or low disease activity. After 3 months of ADA therapy, high or moderate disease activity remained in 3 (15%) patients; median DAS28 was 4.4 [4.3; 6.1]; the drug was discontinued in them due to ineffective

therapy. After 12-month follow-up, low DAS28 scores were observed in 5 (29.4%), DAS28 remission was in 12 (70.6%) of the 17 patients who continued ADA treatment; after 24 months, all the 17 patients were noted to have remission. After achieving sustained remission (≥ 6 -month duration during ADA therapy), there was a carefully controlled reduction (titration) in the dose of ADA with its complete discontinuation, by maintaining remission at 36-month follow-up; the median DAS28 was 1.6 [1.4; 2.2].

The disease duration up to 1 year and functional class reduction to I in the first year of observation (or=46.2; 95% CI 1,870-1141,178; $P=0.019$ and or=44.2; 95% CI 1,795-1088,143; $P=0.02$) were identified as predictors of maintaining long-term remission after the discontinuation of ADA. RF positivity and the presence of erosion initially determined the impossibility of ADA withdrawal. (fig.1)

Figure 1. Influence of different factors on the possibility of withdrawal of ADA in patients with RA in remission.

Remission maintenance

Conclusion: In most patients with early rheumatoid arthritis, early induction of remission can be maintained after stopping the biologic therapy, under condition that the therapy was carried out by a combination of bDMARD and methotrexate. The maintenance of remission after discontinuation of ADA therapy was influenced by the duration of the disease and the depth of remission.

Disclosure of Interests: None declared

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AB0375 HYPOGAMMAGLOBULINEMIA AFTER RITUXIMAB TREATMENT IN PATIENTS WITH RHEUMATOID ARTHRITIS IS NOT RARE AND IS ASSOCIATED WITH BETTER RESPONSE

Gerasimos Evangelatos¹, George E. Fragoulis¹, Kalliopi Klavdianou², Dimitrios Vassilopoulos², Alexios Iliopoulos¹. ¹417 Army Share Fund Hospital (NIMTS), Athens, Greece, Rheumatology Department, Athens, Greece; ²Joint Rheumatology Program, National and Kapodistrian University of Athens, School of Medicine-Clinical Immunology-Rheumatology Unit, 2nd Department of Medicine, Athens, Greece

Background: Rituximab (RTX) is used as a second line treatment in rheumatoid arthritis (RA), with well-established efficacy. One of the most common adverse events of RTX use is hypogammaglobulinemia (HGG).

Objectives: To define, in RA patients treated with Rituximab, the frequency of HGG (IgG<700mg/dL or IgM<40mg/dL or IgA<70mg/dL) and to identify associations between its occurrence and clinical, epidemiological and other disease related features at baseline, RA outcomes and adverse events.

Methods: The patients received RTX for RA in two rheumatology centers from 1/2007 to 12/2018 were included. Demographical, clinical and laboratory parameters were recorded at baseline and at the last visit of the follow-up. Time of follow-up was defined as the time interval between the first RTX infusion and the last visit. Patients with monoclonal gammopathy and patients that received only one cycle of treatment were excluded. Severe infections were recorded defined as those which required hospitalization or antibiotics intravenously. Binomial regression analysis using stepwise backwards model having as dependent variables the "low IgG" or "low IgM" and independent variables: gender, age,

follow-up duration, RF levels, number of cycles received, DAS28(CRP) at baseline and IgG or IgM levels at baseline. SPSS software 21.0 and GraphPad Prism 5.00 were used for statistical analyses.

Results: 76 patients were included followed up for a median (range) of 48 (6-135) months. 65 were female (84.4%) with a mean±SD age of 63.5±11.8 and baseline DAS28(CRP) of 5.98±1.25. 67.8% and 65.2% of patients were RF positive, respectively (Table). At baseline, none of them had low IgG or IgA levels while 4 patients had IgM levels below 40mg/ml. The patients received median (range) 8 (2-20) cycles of RTX. In total, 43.4%, 25%, 28.9% and 5.3% developed HGG, low IgG, IgM and IgA, respectively. In 15.8% of the patients, at least 2 immunoglobulins subclasses were low. Levels of IgG and IgM, at the last visit, were negatively correlated with the number of RTX cycles received (IgG: $p=0.02$, $r=-0.27$; IgM: $p=0.03$, $r=-0.25$). At baseline, no differences were recorded between patients that developed HGG and those who did not (Table). Patients who developed low IgG or IgM had lower baseline levels of IgG or IgM levels, respectively (Table). Multivariable analyses revealed number of cycles received ($p=0.03$) and baseline IgM levels ($p=0.03$) as predictors of "low IgM" occurrence, while no variable was identified for "low IgG". At the end of follow up, the patients who developed HGG or low IgM compared to those who did not, exhibited lower DAS28 (Table). Concurrent treatment, during follow up or at the time of the last visit did not differ between the various groups, except from co-administration of methotrexate, which was more frequent at the time of last visit in patients who did not develop HGG (43.5% Vs 30.3%, $p=0.04$). No difference was observed in infections rate, among all analyses performed.

Table 1.

Characteristic	Not developed Hypogammaglobulinemia	Developed Hypogammaglobulinemia	p-value
Baseline characteristics			
Disease duration (months), mean ± SD	44.6 ± 23.1	55.9 ± 50.7	0.325
Number of cycles, median (range)	8 (2-20)	8 (2-15)	0.157
Age (years), mean±SD	61.5 ± 12.2	66.2 ± 11.0	0.085
Female gender, n (%)	37/43 (86.1)	28/33 (84.9)	1.000
Smoking, n (%)	7/13 (53.8)	3/10 (30.0)	0.402
RF positive, n (%)	20/31 (65.5)	18/24 (75.0)	0.558
DAS28 (baseline), mean±SD	5.46 ± 1.07	4.88 ± 0.91	0.092
Outcomes			
DAS28 (end of follow-up), mean±SD	4.16 ± 1.36	3.12 ± 1.32	0.003
Infections rate (95% CI)	4.81 (2.18 – 9.33)	1.62 (0.33 – 4.75)	0.09
Normal IgG			
Baseline characteristics			
Disease duration (months), mean ± SD	46.0 ± 23.1	60.2 ± 55.4	0.232
Number of cycles, median (range)	8 (2-15)	9 (2-20)	0.157
Age (years), mean±SD	62.2 ± 12.4	67.7 ± 9.0	0.169
Female gender, n (%)	47/57 (82.5)	18/19 (94.7)	0.275
Smoking, n (%)	6/17 (35.3)	5/6 (84.7)	0.179
RF positive, n (%)	28/41 (68.3)	10/14 (71.4)	1.000
IgG levels (mg/dl) (baseline), mean±SD	1058 ± 251.0	1213 ± 280.0	0.05
DAS28 (baseline), mean±SD	5.32 ± 1.07	5.12 ± 0.89	0.654
Outcomes			
DAS28 (end of follow-up), mean±SD	3.87 ± 1.42	3.27 ± 1.39	0.146
Infections rate (95% CI)	3.88 (1.86 – 7.34)	1.75 (0.20 – 6.33)	0.312
Normal IgM			
Baseline characteristics			
Disease duration (months), mean ± SD	48.1 ± 28.2	53.1 ± 24.6	0.514
Number of cycles, median (range)	8 (2-20)	8.5 (2-17)	0.303
Age (years), mean±SD	61.8 ± 12.1	67.8 ± 10.1	0.06
Female gender, n (%)	47/53 (88.7)	18/23 (78.3)	0.291
Smoking, n (%)	7/17 (41.2)	3/6 (50.0)	1.000
RF positive, n (%)	26/39 (66.7)	12/16 (75.0)	0.750
IgM levels (mg/dl) (baseline), mean±SD	76.7 ± 31.0	145.1 ± 79.0	0.001
DAS28 (baseline), mean±SD	5.41 ± 1.01	4.86 ± 1.01	0.094
Outcomes			
DAS28 (end of follow-up), mean±SD	4.03 ± 1.38	2.92 ± 1.26	0.003
Infections rate (95% CI)	3.55 (1.61 – 6.70)	2.57 (0.52 – 7.51)	0.671

Table: comparison of patients who developed hypogammaglobulinemia with those who did not. Further analysis was performed stratifying patients according to the immunoglobulin subclass. SD: standard deviation, n: number, RF: rheumatoid factor, DAS: disease activity score, RTX: rituximab, CI: confidence interval.

Conclusion: HGG following RTX can be developed in about 40% of RA patients even after several treatment cycles. It is related to baseline immunoglobulin levels and possibly combined with better disease outcomes. The latter is observed primarily with IgM. No increased risk of major infections was identified.

Disclosure of Interests: None declared

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AB0376

RESULTS OF A MANDATORY SWITCHING FROM ORIGINATOR TO BIOSIMILAR ETANERCEPT IN 117 PATIENTS WITH INFLAMMATORY ARTHRITIS FROM A SINGLE CENTER

Sabela Fernández, Senen Gonzalez, Carmen Ordas-Calvo, Edilia García-Fernández, Belén Rodríguez-De-Castro, Jesús Babío. *Gijón, Rheumatology, Gijón, Spain*

Background: Currently available evidence indicates that a single switch from a bio-originator to one of its biosimilars is safe and effective and has cost benefits to the National Health Systems. However, there is some reluctance to switch patients due to lack of real-world data and differences between patients treated in the setting of real clinical practice and those of clinical trials

Objectives: We aimed to investigate the efficacy and safety of Etanercept-biosimilar (SB4), in a non-medical switch in patients with inflammatory arthritis (IA)

Methods: At Cabueñes Hospital a non-medical switch from Etanercept (ETN) to SB4 was carried out in March 2018. Inflammatory arthritis patients (rheumatoid arthritis (AR), psoriatic arthritis (APS), axial spondyloarthritis (AS), juvenile idiopathic arthritis (JIA)) were included in this single-center retrospective observational study from March 2018 to December 2018. Reasons for SB4 withdrawal were categorized as lack of effect (LOE), adverse events (AE) or others.

Results: A total of 117 patients were identified, 100% were switched to SB4 maintaining the same dose. Disease duration was 5 (2–8,5) years. 49 patients (41%) had basal optimized dose of ETN (dose down-titration or dose interval expansion). In most patients ETN was the first biologic. 31 patients (26%) stopped SB4 treatment during follow-up, mainly due to LOE (67%) or AE (25%), with median duration of SB4 3.5 months (1,9–5,9). Most AE that led to withdrawal were dermatological (injection-site reactions, skin rash). 11 patients switched back to ETN, 15 to others. Two patients died, both were APS (one sudden death and one aneurysmal subarachnoid hemorrhage). After switching to SB4, one stable patient with AS had recurrent acute anterior uveitis, and psoriasis worsening were noted in 2 patients with APS. 2 patients needed reinstatement of the full dose of biologic because of LOE. The clinical situation on ETN was stable in 23 of the 31 (74%) patients who stopped SB4 (no flares or changes in treatment in the last 6 months before switch).

Table 1 summarizes baseline characteristics and treatment outcomes.

Conclusion: Biosimilar switch of SB4 was successful in over 74% of cases and was well tolerated.

Most patients who stopped SB4 due to LOE had a clinical stable situation in this observational study. Some concerns regarding the safety profile and interchangeability have raised and further evidence on the efficacy of transitioning from reference ETN is needed.

REFERENCES

- [1] Kay J, Schoels MM, Dörner T, et al. Ann Rheum Dis 2018;77:165-174
- [2] Emery P, Vencovsky J, Sylwestrzak A, et al. Ann Rheum Dis 2017;76:51–57
- [3] Glinborg B, et al. Ann Rheum Dis 2019 Feb;78(2):192-200

Table 1:

	RA (n=47)	APS (n=29)	AS (n=30)	JIA (n=8)
Age (years)	62 (53-71)	51 (46-60)	49 (42-60)	42 (30-51)
Female, n (%)	33 (70,2%)	11 (37,9%)	4 (13,3%)	2 (25%)
Monotherapy, n (%)	17 (36%)	16 (55%)	30 (100%)	6 (75%)
Dose optimization, n (%)	18 (38,6%)	13 (44,8%)	12 (40%)	5 (62,5%)
Duration of ETN (years, median IQR)	4 (1,8-6)	4,2 (2-6)	5,9 (2-10,6)	6 (4,1-8,2)
Other biologic drug prior to ETN, n (%)	6 (12,7%)	7 (24,1%)	6 (20%)	1 (12,5%)
9-month treatment outcomes				
Withdrawal during follow-up, n (%)	15 (31,9%)	8 (27,5%)	6 (20%)	1 (12,5%)
Duration of SB4 (months, median IQR)	3,8 (1,9-5,1)	4,3 (2-6,1)	2,3 (1,4-5,6)	5,9

Disclosure of Interests: None declared

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AB0377

CLINICAL SIMILARITY OF ABP 710 WITH INFLIXIMAB (REFERENCE PRODUCT) IN SUBJECTS WITH MODERATE TO SEVERE RHEUMATOID ARTHRITIS

Mark C. Genovese¹, Juan Sanchez-Burson², Myungshin Oh³, Éva Balázs⁴, Jeffrey Neal⁵, Gary Fanjiang⁶, Stanley Cohen⁷. ¹Stanford, Division of Immunology and Rheumatology, Palo Alto, United States of America; ²Hospital Infanta Luisa, Sevilla, Spain; ³Amgen, Thousand Oaks, United States of America; ⁴Csongrád Megyei Dr. Bugyi István Kórház, Sima Ferenc, Hungary; ⁵Bluegrass Community Research, Lexington, KY, United States of America; ⁶Amgen, Thousand Oaks, CA, United States of America; ⁷Metroplex Clinical Research, Dallas, Tx, United States of America

Background: ABP 710 is being developed as a biosimilar to infliximab. Both ABP 710 and infliximab reference product (RP) inhibit tumor necrosis factor- α and have been shown to be structurally and functionally similar in analytical assessments. In a phase 1 clinical pharmacokinetic (PK) study both were shown to be bioequivalent for PK