Results: Overall, 283 patients were included in the register starting SB4 and 369 with oETN. Another 355 patients who had already been enrolled in RABBIT switched to SB4 during follow up. Compared to oETN patients, those enrolled with SB4 had slightly lower disease duration (8 vs. 9 years) and significantly fewer patients had three or more comorbidities (40% vs. 47%, $p=0.04$). 88% ($n=250$) of patients enrolled with SB4 and 86% ($n=317$) enrolled with oETN were bionative. Out of all patients who started SB4 during follow up, 40% had been treated with oETN, and 39% with another biologic before switching. 21% had received csDMARD or no drug treatment before treatment start. Kaplan-Meier curves show comparable retention rates over 6 months for SB4 and oETN (figure 1). Adjusting the curves for disease duration and comorbidities had no significant influence on the results. 8% ($n=20$) of bionative SB4 patients and 17% ($n=54$) of bionative oETN patients stopped treatment during the first 90 days. Additional 6% ($n=14$, SB4)/15% ($n=46$, oETN) stopped the treatment within 180 days after enrolment. The reasons for discontinuation of both treatments were adverse events (AE) in 59% ($n=20$, SB4)/49% ($n=49$, oETN) and loss of response in 26% ($n=9$, SB4)/31% ($n=31$, oETN). The most common cause for discontinuation within 180 days due to AE were skin reactions at the injection site in 35% (7 of 20) of SB4, and 49% (24 of 49) of oETN patients).

Abstract THU0192 – Figure 1. Treatment continuation in patients enrolled with SB4 or oETN who were bionative until enrollment.

Conclusions: The retention rates for bionative patients starting either the biosimilar SB4 or the originator oETN were similar. The distribution of adverse events was also comparable. A selection bias cannot fully be ruled out since patients on oETN had more comorbidities.

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THU0193 EFFICACY AND SAFETY OF BCD-055 (INFLIXIMAB BIOSIMILAR) IN RHEUMATOID ARTHRITIS. RESULTS OF BCD-055-3/LIRA PHASE 3 CLINICAL STUDY

A. Lila¹, L. Denisov², T. Plaksina³, S. Smakotina⁴, E. Kunder⁵, N. Soroka⁶, A. Kastanayan⁷, O. Nesmeyanova⁸, O. Antipova⁹, E. Ilivanova¹⁰, A. Eremeeva¹¹, E. Dokukina¹¹, E. Chernyaeva¹¹, R. Ivanov¹¹. ¹North-Western State Medical University named after I.I. Mechnikov, Saint-Petersburg; ²V.A. Nasonova Research Institute of Rheumatology, Moscow; ³N.A. Semashko N. Novgorod Regional Clinical Hospital, N. Novgorod; ⁴S.V. Belayev Kemerovo Regional Clinical Hospital, Kemerovo, Russian Federation; ⁵Clinical Hospital No1; ⁶Clinical Hospital No9, Minsk, Belarus; ⁷Rostov State Medical University, Rostov-on-Don; ⁸Chelyabinsk Regional Clinical Hospital, Chelyabinsk; ⁹Irkutsk Municipal Clinical Hospital No1, Irkutsk; ¹⁰Leningrad Region Clinical Hospital; ¹¹JCS BIOCAD, Saint-Petersburg, Russian Federation

Background: Equivalent efficacy of BCD-055 and infliximab (INF) innovator has been previously established (the primary endpoint: ACR20 at Wk14)¹.

Objectives: The impact of BCD-055 and INF innovator on RA activity has been analysed within 14 week study period. DAS28-CRP,⁴ CDAI and SDAI were evaluated. Additionally, safety data has been collected.

Methods: The study was conducted as international multicenter randomised double-blind placebo controlled study. The study enrolled 426 adults with active RA. Patients were randomised into 2 study arms in 2:1 ratio to receive BCD-055 or INF innovator in dose of 3 mg/kg. In the analysed period of the study, patients received the iv infusions on Wk0, Wk2, Wk6, Wk14.

Results: Efficacy: BCD-055 and INF innovator showed similar impact on RA activity: in both groups significant decline of DAS28-CRP⁴ was observed (figure 1). This result corresponds to positive CDAI and SDAI dynamics (table 2). Medians of CDAI/SDAI on screening indicated high RA activity, while on Wk 14 – moderate activity. Analyses of inflammatory markers (ESR and C-reactive protein) revealed pronounced decline in ESR and CRP levels by Wk 2. No further elevation has been observed.

Safety: No differences in safety profiles of BCD-055 and INF innovator has been shown. One of the most frequent AEs were arterial hypertension, anaemia, neutropenia and increase of transaminases. Number of patients with binding and neutralising antibodies also did not differ between groups. Babs were detected in 6.83% patients in BCD-055 arm and in 7.81% in INF innovator arm ($p=0.888$), Nab were observed in 1.61% and 0.78% patients in same arms ($p=0.666$).

Abstract THU0193 – Table 1. SDAI, CDAI dynamics.

		Screening	Wk14	p-value
SDAI	BCD-055 (n=280)	42.46 [35.15–51.11]	16.22 [8.45–25.03]	<0.00000
	INF innovator (n=138)	41.22 [34.21–47.52]	16.15 [9.06–27.11]	<0.00000
CDAI	BCD-055 (n=280)	39.15 [31.50–46.00]	15.40 [8.00–24.00]	<0.00000
	INF innovator (n=138)	36.85 [31.90–42.00]	15.55 [8.30–25.50]	<0.00000

Abstract THU0193 – Table 2. Summarised safety data

Percentage of patients with	Arm		p-value
	BCD-055 (n=280)	INF innovator (n=138)	
Any AE/SAE	53.57% (150)	44.93% (62)	0.119
Therapy-related AEs	26.43% (74)	24.64% ³⁴	0.784
Any SAE	2.14% ⁶	1.45% ²	1.00
Grade 3–4 AEs	10.00% ²⁸	5.80% ⁸	0.966
Therapy-related grade 3–4 AEs	5.71% ¹⁶	4.35% ⁶	0.722
Therapy-discontinuation due to AE	2.50% ⁷	2.90% ⁴	0.757

Conclusions: Treatment with BCD-055 and INF innovator leads to significant decline in RA activity and inflammatory markers by Wk14, which corresponds with previous results of ACR20 assessment¹. Both drugs are well tolerated with no differences in safety profiles. The frequency of ADA formation is also comparable.

REFERENCE:

- Denisev L, Gordeev I, Mazurov V, et al. FRI0208 Comparison of efficacy, safety and pharmacokinetics of infliximab biosimilar (BCD-055) and innovator infliximab Ann Rheum Dis 2017;76:560–561.

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THU0194 CD4+ T CELLS, IMMUNOGLOBULINS AND RISK OF INFECTION IN PATIENTS WITH RHEUMATOID ARTHRITIS OVER MULTIPLE CYCLES OF RITUXIMAB

F. Martins¹, A. Bensalem², T. Bejan-Angoulvant^{2,3}, A. Lhommas¹, J. Mélet^{1,2}, S. Mammou¹, G. Thibault^{2,4,5}, L. Bernard⁶, P. Goupille^{1,2}, D. Mulleman^{1,2}.

¹Rheumatology, CHRU de Tours; ²EA GICC, University of Tours; ³Clinical Pharmacology, CHRU de Tours; ⁴CNRS ERL 7001, University of Tours; ⁵Immunology; ⁶Infectious diseases, CHRU de Tours, Tours, France

Background: Rituximab (RTX) may be responsible for infectious event in RA patients. Immunological markers may be associated with the occurrence of infections.

Objectives: To evaluate lymphocyte counts and immunoglobulin concentrations over multiple cycles of RTX in RA patients, and to analyse the relationship between these markers and the occurrence of infections.

Methods: Retrospective monocentric study on 94 RA patients treated with RTX. At baseline and during follow up, lymphocyte phenotyping (CD4+, CD3+, CD19 +cells), gammaglobulin, IgG, IgM and IgA concentration were assessed. Patients were dichotomized according to the absence or presence of infectious events. A student's test was used to compare the continuous variables and a Chi2 test or the Fisher test was used for the dichotomous variables.

Results: A total of 119 infectious events occurred during follow-up, of which only 11 were serious, with respective incidences of 65 per 100 patient-years and 6 per 100 patient-years. Low IgM concentration at RTX initiation and low IgG concentration (<5 g/L) throughout follow-up were associated with an increased risk of infection. Both gammaglobulin and IgG concentrations decreased along with successive cycles of RTX in patients with infection, while they remained stable in patients without infection. Twelve patients had a CD4 +cell count<200/mm³ during follow up, of which one with a CD4 +cell count 233/mm³ at baseline, who subsequently presented an opportunistic infection.

Conclusions: Gammaglobulin, IgM and IgG concentrations and CD4 +cell count are valuable before RTX initiation in RA patients. IgG or gammaglobulin concentration should also be monitored before each cycle. CD4 +lymphocytes monitoring should be considered in patients with low value at initiation.

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THU0195 PREVALENCE OF OCCULT HEPATITIS B CARRIER STATUS AND ITS ASSOCIATED FACTORS IN PATIENTS WITH RHEUMATIC DISEASES UNDERGOING BIOLOGICAL THERAPIES

C.C. Mok¹, L.Y. Ho¹, K.L. Chan¹, S.M. Tse¹, C.H. To². ¹Medicine, Tuen Mun Hospital; ²Medicine, Pok Oi Hospital, HK, Hong Kong

Objectives: To study the prevalence of occult hepatitis B carrier status and its associated factors in patients with rheumatic diseases undergoing biological therapies

Methods: Consecutive adult patients with various rheumatic diseases who were currently receiving biological therapies between November 2016 and April 2017 were recruited in this cross-sectional study. Blood was taken for evidence of hepatitis B infection (HBsAg, anti-HBs, anti-HBc-IgG). For patients tested positive for HBsAg or anti-HBc-IgG, assay of serum HBV-DNA level was also performed. Occult hepatitis B carrier was defined as patients who were HBsAg negative but anti-HBc-IgG positive. Logistic regression was performed to study factors independently associated with occult hepatitis B carrier status in these patients.

Results: 310 Chinese patients were studied (60% women, age at biological therapy 44.0±13.0 years). The underlying rheumatic diseases requiring biological therapies were rheumatoid arthritis (46%), spondyloarthritis (31%), psoriatic

arthritis (12%) and systemic lupus erythematosus (8.1%). The biologics being used were the TNF inhibitors (66%), tocilizumab (16%), abatacept (2.9%), rituximab (7.7%), belimumab (5.8%) and tofacitinib (1.3%). Hepatitis B carrier (HBsAg +) status was detected in 11 (3.5%) patients and they were all put on preemptive anti-viral therapy (entecavir). A total of 105 patients (34%) were occult hepatitis B carriers (HBsAg- but anti-HBc-IgG+). Anti-HBs was present in 83/105 (79%) of these patients. Occult hepatitis B carriers were significantly older than the non-carriers (49.9±11.1 vs 40.9±13.3 years; p<0.001), and were more frequently identified in rheumatoid arthritis than other rheumatic diseases (45% vs 25%; p<0.001). However, there was no gender difference in the prevalence of the occult hepatitis B carrier status (37% in women vs 28% in men; p=0.10). Logistic regression revealed that older age (RR 1.05 [1.03–1.08] per year; p<0.001) was the only independent factor significantly associated with occult hepatitis B infection. Rheumatoid arthritis was not significantly associated with occult hepatitis B carrier status after adjustment for age and sex. Of the occult hepatitis B carriers, 9 (8.6%) had detectable HBV-DNA levels but all were very low titers (<100 IU/ml). Five (56%) patients with detectable HBV-DNA levels received entecavir treatment during biological therapies, while 19 (20%) patients without detectable HBV-DNA were put on preemptive entecavir treatment (including all patients who were receiving rituximab). None of the overt (HBsAg+) or occult hepatitis B (HBsAg-anti-HBc-IgG+) carrier patients developed clinical reactivation of hepatitis B during a mean of 5.0±3.7 years of biological therapies.

Conclusions: Occult hepatitis B carrier status was present in one-third of Hong Kong Chinese patients with various rheumatic diseases undergoing biological therapies. Older age was the only independent factor associated with occult hepatitis B infection. Despite the relatively low rate of preemptive anti-viral treatment in these patients, clinical reactivation of hepatitis B was not reported over 5 years of biological therapies.

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THU0196 DO CONTEXTUAL FACTORS INFLUENCE SURVIVAL ON DRUG OF BIOSIMILARS IN CLINICAL PRACTICE?

D. Di Giuseppe¹, T. Frisell², E. Lindqvist³, L. Jacobsson⁴, C. Turesson³, C. Sjöwall¹, J. Askling¹, on behalf of ARTIS group. ¹Department of Medicine Solna, Karolinska Institutet; ²Department of Medicine Solna, SRQ, Stockholm; ³Lund University and Skåne University Hospital, Malmö; ⁴Sahlgrenska Academy, University of Gothenburg, Gothenburg; ⁵Linköping University, Linköping, Sweden

Background: The introduction of biosimilars has been linked to concerns regarding their effectiveness and safety compared to their originator products. Whilst randomized controlled trials may address their relative efficacy, the outcome of biosimilars in clinical practice may be influenced by contextual factors, such as the treating rheumatology unit's experience with biosimilars and non-medical switching.

Objectives: To analyze whether contextual factors, such as department size and use of biosimilars, and calendar period of treatment start, influence time until treatment discontinuation (i.e. drug survival) of biosimilars as compared to corresponding originator products.

Methods: We used data from the Swedish Rheumatology Quality register to identify all patients with rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, or other spondyloarthropathies who started infliximab between March 1st 2015 and Sept 30th 2017 or etanercept between April 1st 2016 and Sept 30th 2017, as their first ever biologic. Kaplan-Meier curves and Cox models were used to assess the association between drug survival and the size of the rheumatology unit, its use of biosimilars (extent of biosimilar use above/below national median at teach time point), and whether the treatment start occurred soon after biosimilar introduction (infliximab: first 12 months, etanercept: 6 months counting from first date of availability of the biosimilar in question). To avoid artefacts, patients were censored if switching from the originator to a biosimilar (or vice versa).

Results: During the study period, 368 and 738 patients started infliximab originator or biosimilar, and 125 and 2079 started etanercept originator or biosimilar, as first ever biological treatment. Overall, the hazard ratio (HR) of discontinuing treatment (comparing the biosimilar vs its originator) was 1.21 (95% CI: 0.96–1.51) for infliximab and 0.88 (95% CI: 0.57–1.35) for etanercept, adjusted for indication, age (quartiles), gender, region, and HAQ (quartiles), DAS28 (quartiles) and global health (quartiles) at treatment start. Patients treated in large clinics (more than 1695 patients (75th percentile) at the end of the study period) were at a lower risk of drug discontinuation (table 1). We noted no association between overall biosimilar use in the rheumatology clinic in question and survival on drug (neither originator nor biosimilar). By contrast, those who started infliximab biosimilar later had a lower risk of discontinuing (HR: 0.65 (95% CI: 0.50–0.85)) compared to those who started in the first year of availability. For etanercept biosimilar, no such association was noted.