to have efficacy and safety similar to their reference products, were introduced to the UK market in February 2015 for rheumatoid arthritis (RA). Most research on RA biosimilars has been done in the context of clinical trials, but real world data are lacking. No national mandate exists in the UK to switch all patients from originator to biosimilars, but there are regional variations.

Objectives: This analysis aims to describe the characteristics of the first UK patients starting RA biosimilars registered with the British Society for Rheumatology Biologics Register for RA (BSRBR-RA).

Methods: Since 03/08/2015, the BSRBR-RA has captured data on patients starting biosimilars available in the UK: infliximab (Inflectra and Remsima) and etanercept (Benepali). At biosimilar start, information is captured from the hospital including demographic and clinical data, previous biologic exposure and if switching therapies, the reason for switch (as a tick box and free text). Follow-up data, including disease activity, occurrence of adverse events and changes to treatment is captured 6-monthly for 3 years and annually thereafter. Descriptive data are presented.

Results: To 15/12/2016, 417 RA patients were recruited to the BSRBR-RA at point of starting a biosimilar for whom data were available for analysis on 414 participants: 47 (11%) Inflectra, 78 (19%) Remsima and 289 (70%) Benepali. Of these, 138 started a biosimilar as first biologic, 242 switched directly from the originator product and 34 switched from an alternative biologic (Table). Patients switching from the originator did so after a median (IQR) of 6.7 (3.0–9.5) years and the majority had low disease activity (median DAS28 2.7 (IQR 2.0–3.9)). The switch reason was reported in 33% of patients, with cost listed as the main reason and "trust policy" included in 63% of 30 free text comments. Six-month follow-up data were available in 41 patients. Three patients on Remsima and 1 patient on Inflectra reported drug hypersensitivity reactions (rash, pruritus, hyperpigmentation), and 18% (6/34) of patients experienced a deterioration in their DAS28 of >1.2 after 6 months.

Table

	Biological naive	Switched from reference product	Not switched from reference product
Number	138	242	34
Biosimilar, n (%)			
Inflectra	3 (2%)	40 (16%)	4 (12%)
Remsima	9 (6.5%)	65 (27%)	4 (12%)
Benepali	126 (91%)	137 (57%)	26 (76%)
Women, n (%)	108 (78%)	181 (75%)	28 (82%)
Age (years)	56.0 (48.0-64.5)	67.0 (57.0-72.0)	59.5 (44.5-68.0)
Disease Duration (years)	4.0 (1.0-10.0)	17.0 (10.0-24.0)	9.5 (6.0-14.0)
DAS28(CRP)	5.9 (5.3-6.5)	2.7 (2.0-3.9)	5.1 (3.5-6.2)
Comorbidities			
0	52 (38%)	84 (35%)	12 (35%)
1	47 (34%)	84 (35%)	11 (32%)
2	32 (23%)	32 (13%)	5 (14%)
3+	7 (5%)	42 (17%)	6 (19%)
Previous biological on n (%)			
Enbrel	-	137 (57%)	1 (3%)
Remicade	-	105 (43%)	4 (12%)
Kineret	-	-	1 (3%)
Humira	-	-	7 (21%)
Mabthera	-	-	1 (3%)
Orencia	-	-	4 (12%)
Simponi	-	-	4 (12%)
RoActemra	-	-	6 (18%)
Cimzia	-	-	6 (18%)
Reasons to switch, n (%)			
Cost factors	6 (86%)	107 (86%)	2 (50%)
Clinical indication	-	5 (4%)	1 (25%)
Patient choice	-	1 (1%)	1 (50%)
Other	1 (11%)	11 (9%)	-
Follow-up data available, n	5	35	1
DAS28 at 6 months	3.9 (3.1-7.1)	2.8 (2.2-3.9)	5.3

All data presented are numbers (percentages) or median (IQR).

Conclusions: This preliminary study gives an early review of biosimilar use in the UK, showing that these drugs are used in patients with active disease as both first-line and subsequent-line biologics. Many patients with low disease activity are also being switched from originators primarily for cost reasons. Outcome data are limited but data capture will continue and updated reports from the BSRBR-RA will continue to be presented.

Disclosure of Interest: None declared

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FRI0197 ADHERENCE, SATISFACTION AND FULFILLMENT OF EXPECTATIONS OF PATIENTS WITH RHEUMATOID ARTHRITIS TREATED WITH SUBCUTANEOUS BIOLOGICALS. ARCO STUDY

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Background: In patients with rheumatoid arthritis (RA), we previously described that adherence to the subcutaneous (SC) biological treatment is better with monthly administration.

Objectives: We further assessed if there are differences in patients expectations and satisfaction with efficacy and tolerance that could contribute to explain such finding.

Methods: ARCO was a retrospective study on RA patients who had been prescribed a SC biological 11–18 months prior to the study. Adherence was calculated with the medication possession ratio (MPR). Satisfaction and expectations were assessed with the Spanish validated Carbonell questionnaire [1].

Results: We included 364 patients (age 54.9 years [SD 12.5], 77.5% women, median duration of RA 7.8 years, period studied for the SC biological 14.8 months). Non-adherence (MPR ≤80%) was lower in patients with monthly (6.4%) than with weekly (17.4%, p=0.034) or every 2 weeks administration (14.4%, p=0.102). The % of satisfied patients (quite/very satisfied) was 86.2% for efficacy and 64.4% for side effects or tolerance. Non-adherence was similar in satisfied with efficacy and in neutral/unsatisfied patients (14.7% vs. 8.3%, p=0.399), or in patients satisfied/not satisfied with side effects (13.1% vs. 15.4%, p=0.504). The fulfillment of expectations is shown in the table. With regard to expectations on the effect, non-adherence was 15.5% (higher than expected), 12.6% (as expected) and 10.7% (lower than expected) (p=0.677), and with regard to discomfort/side effects, it was 15.6% (greater than expected), 18.5% (as expected) and 11.1% (lower than expected, or no side effect) (p=0.189). Fulfilment of expectation on efficacy was similar for the 3 dosing schemes, but the % reporting lower than expected discomfort or no discomfort was greater with fewer SC injections (table). In particular, the % reporting no discomfort/side effects with the administration were 17.8% (weekly), 29.3% (every 2 weeks), and 35.0% (monthly) (p=0.013).

	All %	Weekly %	Every 2 weeks %	Monthly %	p
Effect of the treatment					
Much/quite higher than expected	59.9	59.2	57.2	66.7	0.573
More or less as expected	32.1	33.6	33.8	25.0	
Quite/much lower than expected	8.0	7.4	9.0	8.3	
Discomfort					
Much/quite higher than expected	13.0	15.8	11.5	10.1	0.048
More or less as expected	34.4	38.2	35.3	23.3	
Quite/much lower than expected or there were no discomfort	52.5	46.0	53.2	66.6	

Conclusions: RA patients on SC biological therapy show high satisfaction and fulfillment of expectations on efficacy, although both aspects lower for tolerance. Dosing regimen with lower number of SC injections seems to be associated with better fulfillment of expectations of tolerance. This finding, added to the lower number of injections itself, might explain the better adherence observed with monthly administration.

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FRI0198 USABILITY AND SAFETY OF SB5 (AN ADALIMUMAB BIOSIMILAR) PRE-FILLED SYRINGE AND PRE-FILLED PEN IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: SB5 is developed as a biosimilar of the reference adalimumab (ADL). Equivalence in pharmacokinetics (PK) and efficacy between SB5-pre-filled syringe (PFS) and ADL-PFS has been demonstrated in a phase I and phase III study.[1,2] The PK equivalence between SB5-PFS and SB5-pre-filled pen (PFP) in healthy subjects has been reported previously.[3]

Objectives: To compare the usability and safety of SB5-PFS and SB5-PFP from a phase II study.

Methods: This was an open-label, single-arm study in patients with rheumatoid arthritis (RA). Patients with RA self-administered a total of 6 injections of 40 mg SB5 every other week; the first two injections were through PFS and the following four injections were through PFP. The primary objective of this study was to demonstrate comparability between PFS (at week 2) and PFP (at week 6) in terms of injection site pain score. Patients completed a pain evaluation questionnaire using an 11-point numeric rating scale at two time points (immediately and 15–30 minutes post-injection) after the first four injections. Equivalence between PFS and PFP was concluded if the 97.5% confidence interval (CI) of the difference in the injection site pain score was contained within the equivalence margin of ±5. Other usability (overall impression and patient preference) and safety endpoints were also measured.

Results: A total of 49 patients were enrolled and 48 patients completed the study. The mean injection site pain score was 2.3 in PFS vs. 2.0 in PFP immediately post-injection and 0.8 in PFS vs. 0.7 in PFP at 15–30 minutes post-injection. At both time points the score was equivalent between PFS and PFP: the 97.5% CI was (–0.99, 0.30) and (–0.47, 0.25) immediately and 15–30 minutes post-injection, respectively.
The overall impression was also comparable between PFS and PFP. There were no patients who had an overall impression of extremely unfavorable and the proportion of patients who had a favorable impression was higher than that of unfavorable impression in both PFS and PFP. The overall preference for PFP (56.5%) was higher than PFS (30.4%) as presented in the Table.
Both PFS and PFP were well tolerated and there were no serious treatment-emergent adverse events. Only one patient after administration of PFS experienced injection site reaction.

Table. Preference between Pre-filled Syringe and Pre-filled Pen

Preference	Pre-filled Syringe n/n' (%)	Pre-filled Pen n/n' (%)	No Preference n/n' (%)
Overall preference	14/46 (30.4)	26/46 (56.5)	6/46 (13.0)
Preference categories			
Ease to use	10/46 (21.7)	33/46 (71.7)	3/46 (6.5)
Convenience	6/46 (13.0)	35/46 (76.1)	5/46 (10.9)
Time to administration injection	9/46 (19.6)	30/46 (65.2)	7/46 (15.2)
Safety	6/46 (13.0)	31/46 (67.4)	9/46 (19.6)
Less pain	17/46 (37.0)	21/46 (45.7)	8/46 (17.4)

Conclusions: The injection site pain score of PFS and PFP was comparable with overall preference rate higher for PFP. Both PFS and PFP were well tolerated with similar safety profiles.
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FRI0199 SYSTEMATIC REVIEW AND META-ANALYSIS ON CERTOLIZUMAB PEGOL FOR RHEUMATOID ARTHRITIS IN ADULTS

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Background: The appearance of tumor necrosis factor-alpha (TNFalpha) inhibitors dramatically changed the prognosis of rheumatoid arthritis. Certolizumab pegol (CZP) is a human Fab fragment of anti-TNFalpha monoclonal antibody which is approved for the treatment of rheumatoid arthritis. We performed a systematic review and meta-analysis, with Cochrane methodology, of the effects of CZP in rheumatoid arthritis.
Objectives: To assess the clinical benefits and harms of CZP in patients with rheumatoid arthritis.
Methods: We performed a search of electronic database (Cochrane Database, MEDLINE, EMBASE, Web of Knowledge and clinicaltrials.gov) until 26th September 2016. We searched for randomized controlled trials of CZP in rheumatoid arthritis compared to any other agent including placebo.
Results: 14 trials were included for the meta-analysis, 12 (5422 patients) in the pooled analysis for benefits and 14 (5499 patients) in the pooled analysis for safety. The overall possibility of bias seemed to be low but the quality of the evidence was low due to the risk of attrition bias.
With the approved dose - CZP 200 mg subcutaneous every other week with the first three doses of 400 mg - CZP showed statistically significant improvements at 24 weeks compared to placebo in: ACR50 absolute improvement 27% (95% CI 20% to 33%), RR 3.8 (95% CI 2.42 to 5.95) and NNT=4 (95% CI 3 to 8); DAS28 $<$2.6 - original definition of remission - with RR 3.79 (95% CI 1.90 to 7.56); HAQ with -12% absolute improvement (95% CI -9% to -14%); and erosion score with -0.29% (95% CI -0.42% to -0.17%). There are also data available at 12 weeks with RR of 1.99 (95% CI 1.44 to 2.76) of achieving DAS28$<$2.6 with CZP 200 mg dose. The proportion of patients achieving DAS28$<$2.6 was still higher with CZP at 52 weeks with RR of 1.83 (95% CI 1.53 to 2.18).
Serious adverse events were more frequent for CZP 200 mg dose with a RR of 1.47 (95% CI 1.13 to 1.91) and NNH of 32. There have been eight adverse events leading to death in CZP 200 mg group versus two in the control group (not statistically significant) and 10 patients developing tuberculosis versus two in the control group (not statistically significant).
Conclusions: There is low level evidence from randomized controlled trials that CZP as monotherapy or combined with methotrexate improved ACR50, DAS28, HAQ and joint damaged on x-ray. Adverse events were more frequent with active treatment.
Disclosure of Interest: None declared
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FRI0200 HIGHER ACCEPTANCE AND PERSISTENCE RATES AFTER BIOSIMILAR TRANSITIONING IN PATIENTS WITH A RHEUMATIC DISEASE AFTER EMPLOYING AN ENHANCED COMMUNICATION STRATEGY

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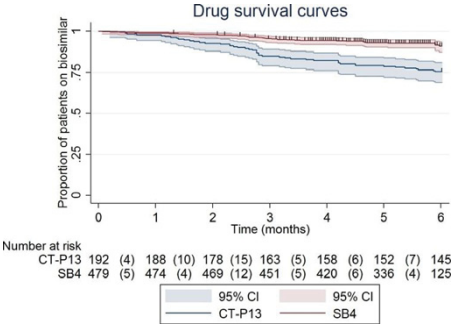
Background: In blinded trials, transitioning from an innovator to a biosimilar has shown to be equivalent to maintenance on innovator biologic treatment in rheumatic diseases. However, data on open label transitioning to a biosimilar are scarce. Recently, we sequentially implemented two biosimilar transition projects (from innovator infliximab (REM) to biosimilar infliximab (CT-P13) and from innovator etanercept (ENB) to biosimilar etanercept (SB4)) in patients with a rheumatic disease using different communication strategies.
Objectives: To investigate the impact of different communication strategies on the acceptance and persistence rates after transitioning from ENB to SB4 in 2016 and transitioning from REM to CT-P13 in 2015.
Methods: Adult patients treated with REM or ENB were informed by letter about the request to transition to a biosimilar. Subsequently, patients were approached by telephone to ask whether they agreed. After the transition of REM to CT-P13 had finished, communication was enhanced for the transition of ENB to SB4 by 1) informing all patients at the same time directly followed by a national media item, 2) reporting that lower costs and fewer injection site reactions (demonstrated in a previous trial) were the reason for transitioning, 3) providing a "soft skills" training for rheumatology and pharmacy staff about how to assuage patient concerns regarding a biosimilar and how to act if a patient has objective or subjective health complaints (discuss possible nocebo response and incorrect causal attribution). Also, group think effects did not play a role during SB4 treatment (individual subcutaneous versus group intravenous administration). Transitioning patients were eligible for inclusion in the BIO-SWITCH study (switch REM to CT-P13) and BIO-SPAN study (switch ENB to SB4)[1]. Demographic, disease and treatment specific characteristics at baseline and disease activity and adverse events (AEs) during 6 months follow-up were collected.
Results: 196 of 222 (88%) REM-treated patients and 636 of 643 (99%) ENB-treated patients transitioned to respectively CT-P13 and SB4 (delta 11%, 95% CI 7% to 16%). Until January 1st 2017, 479 of 636 (75%) patients gave informed consent for the BIO-SPAN study. Baseline characteristics were similar, except for disease duration and innovator treatment duration (both shorter in the BIO-SPAN cohort; p$<$0.01). Drug survival of patients on SB4 was adjusted for confounders greater than patients on CT-P13 (Figure 1; adjusted Hazard Rate 0.21, 95% CI 0.13 to 0.34). During 84 person-years of follow-up 47 patients discontinued CT-P13 (56/100 person-years; 26% due to inefficacy, 74% due to AEs). In contrast, 36 patients discontinued SB4 during 230 person-years of follow-up (16/100 person-years; 53% due to inefficacy, 42% due to AEs and 5% due to remission).



Conclusions: Use of an enhanced communication strategy, together with more experience and absence of group think effects, resulted in much higher acceptance and persistence rates after open label shared decision making biosimilar transitioning in patients with a rheumatic disease.
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