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SAT0132 LONG-TERM SAFETY, IMMUNOGENICITY AND EFFICACY IN RANDOMIZED, DOUBLE-BLIND, AND OPEN-LABEL EXTENSION STUDIES COMPARING FKB327, AN ADALIMUMAB BIOSIMILAR, WITH THE ADALIMUMAB REFERENCE PRODUCT IN PATIENTS WITH ACTIVE RHEUMATOID ARTHRITIS

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Background: FKB327 is a biosimilar of adalimumab reference product (RP). Studies with adalimumab biosimilars have shown no increase in safety signals or immunogenicity versus RPs studied at 52 weeks.

Objectives: To study the long-term safety, immunogenicity and efficacy of FKB327 compared with Adalimumab RP in a randomized double blind (DB) phase 3 study in patients (pts) with active rheumatoid arthritis (RA) inadequately controlled with methotrexate (MTX) and in a subsequent randomized, open-label extension (OLE) study with treatment switching assessed long-term safety, efficacy, PK, and immunogenicity.

Methods: Pts aged ≥18 years with moderate-to-severe, active RA (2010 ACR/EULAR criteria) for ≥3 months and receiving a stable dose of MTX were randomized 1:1 to FKB327 or RP (40 mg subcutaneously [SQ]) every other week with MTX. In the OLE study, pts who completed the DB study with clinical response and no serious adverse events (AEs) were rerandomized in a 2:1 ratio to FKB327 or RP. All pts received FKB327 through week 76 (Period 2). The primary end point was safety; the secondary end point was efficacy. Pooled data for up to 2 years were analyzed to assess long-term safety. Incidence rates of treatment-emergent AEs were adjusted by overall exposure to enable safety comparison of FKB327 and RP.

Results: Of 728 pts in the DB study, 645 were enrolled in the OLE; of those, 572 and 515 pts completed periods 1 and 2, respectively. Safety results from the pooled data were comparable between treatment sequences. Mean serum drug concentrations appeared to be in steady-state in all treatment sequences in Period 1 and comparable among sequences in Period 2. The proportion of pts with positive antidrug antibody (ADA) status in Period 1 was comparable between treatment sequences, and the majority of patients with positive ADA status had neutralizing activity. The mean proportion of patients achieving an ACR20 response remained stable between studies and was similar for all treatment sequences.

Table. Summary of Efficacy & Safety End Points at Week 30 (Period 2): Full Analysis Set

	F-F-F N = 216	F-H-F N = 108	H-F-F N = 108	H-H-F N=213
ACR20 response rate				
n	185	98	92	189
Responders, n (%)	154 (83.2)	82 (83.7)	79 (85.9)	158 (83.6)
95% CI	77.1-88.3	74.8-90.4	77.0-92.3	77.5, 88.6
ACR50 response rate				
n	185	98	92	189
Responders (%)	112 (60.5)	57 (58.2)	50 (54.3)	113 (59.8)
95% CI	53.1-67.6	47.8-68.1	43.6-64.8	52.4, 66.8
DAS28-CRP response rate				
n	183	99	92	189
Mean (SD)	3.04 (1.237)	3.28 (1.385)	3.20 (1.247)	3.13 (1.239)
Range	1.2-7.1	1.2-7.1	1.3-6.3	1.2, 7.4
ADA status				
Total	187	100	93	190
Positive	97 (51.9)	61 (61.0)	42 (45.2)	98 (51.6)

ACR indicates American College of Rheumatology; ADA, antidrug antibody; CI, confidence interval; DAS28, Disease Activity Score-28 with C-reactive protein; F, FKB327; H, adalimumab; SD, standard deviation.

Conclusion: The safety, immunogenicity, and efficacy of FKB327 were maintained over long-term treatment and after switching between the biosimilar and RP.

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SAT0133 TREATMENT PATTERNS, PERSISTENCE, AND DURABILITY IN RHEUMATOID ARTHRITIS PATIENTS WITH INADEQUATE RESPONSE TO BIOLOGIC DISEASE-MODIFYING ANTI-RHEUMATIC DRUGS (BDMARDS)

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Background: EULAR and ACR recommend bDMARDs, as monotherapy or in combination with methotrexate, in patients whose rheumatoid arthritis (RA) remains active despite methotrexate use.¹ Treatment options for bDMARD inadequate response (IR) patients vary. Understanding the real-world treatment patterns and treatment duration in bDMARD IR patients may help identify the most suitable next treatment.

Objectives: We studied treatment patterns, treatment persistence, and treatment durability in bDMARD IR patients who switched to another treatment regimen.

Methods: In US health plan claims data, this study selected adult RA bDMARD patients: those with ≥2 RA diagnoses ≥30 days apart, who newly initiated a bDMARD (1/1/2012 - 3/31/2017; baseline) and then switched to another bDMARD or JAKi (index date, ID). All patients had continuous ≥1-year enrollment before and after ID. Patient characteristics were evaluated at baseline; treatment patterns, persistence, and durability (duration) were evaluated during pre- and post-index periods. Kaplan-Meier curves were used to evaluate treatment persistence.

Results: Among 105,039 patients who were initiated on bDMARDs, 19,085 (18%) demonstrated IR; among those, 4,656 met all the selection criteria: median age 54 years, 22% male, 17% from Northeast, 26% Midwest, 42% South, 15% West.

At baseline, 26% used tumor necrosis factor inhibitors (TNFi) monotherapy and 64% used TNFi in combination with conventional synthetic DMARD (csDMARD). Baseline median treatment duration was 8.3 months overall, including 5.8 months for monotherapy and 9.4 months for combination therapy.

Upon switch, 46% of patients used monotherapy (28% TNFi, 11% other bDMARD, 7% janus kinase inhibitors [JAKi]), and 54% used bDMARD in combination with csDMARD (37% TNFi + csDMARD, 12% other bDMARD

Table. Post-switch treatment patterns, duration, and 12-month persistence.

	Patient allocation	Median treatment duration (months)	12-month persistence
All patients (N=4,656)	100%	9.5	48%
Index monotherapy (N=2,149)*	46%	5.8	33%
TNFi (N=1,305)**	28%	5.1	31%
other bDMARDs (N=521)**	11%	6.9	35%
JAKi (N=323)**	7%	6.7	41%
Index combination therapy (N=2,507)*	54%	13.1	60%
csDMARD + TNFi (N=1,740)	37%	12.3	57%

csDMARD + other bDMARDs (N=569)***	12%	15.1	69%
csDMARD + JAKi (N=198)	4%	14.3	67%

* P<0.0001 (treatment duration); P<0.0001 (persistence);

** P=0.0840 (treatment duration); P=0.0022 (persistence);

*** P=0.1582 (treatment duration); P=0.0615 (persistence).

+ csDMARD, 4% JAKi + csDMARD). Median treatment duration was longer for combination therapy than monotherapy (13.1 vs. 5.8 months, $p < 0.001$). TNFi showed a trend towards shortest treatment duration and lowest 12-month treatment persistence among monotherapies and combination therapies. (Table) JAKi showed best treatment persistence among monotherapies (Figure 1; p -value=0.0004) and combination therapies (Figures 2; p -value<0.0001).

Conclusion: In biologic DMARD IR patients, the first bDMARD treatment lasted, on average, for 8.3 months before switch. Post-switch, TNFi showed a trend towards the shortest durability and JAKi showed the longest durability. The data suggest substantial unmet need in bDMARD patients. A well-tolerated effective therapy, with potent clinical efficacy and improved treatment durability may benefit this patient population.

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SAT0134

COMPARING REAL-WORLD RETENTION RATES IN A MATCHED COHORT OF RHEUMATOID ARTHRITIS PATIENTS WHO EITHER REMAINED ON THE ETANERCEPT ORIGINATOR OR SWITCHED TO A BIOSIMILAR

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Background: In Germany, the first etanercept biosimilar was licensed in 2016. In contrast to other European countries there is no uniform recommendation for the prescription of biosimilars.

Objectives: To compare treatment survival between patients who were switched from the etanercept originator to the etanercept biosimilar SB4 and patients who stayed on the originator treatment.

Methods: We used data of rheumatoid arthritis patients observed in the prospective, longitudinal RABBIT (Rheumatoid Arthritis: Observation of biologic therapy) cohort until November 2018 who were treated with the etanercept originator (oETA) for at least six months. Patients who thereafter were switched to the biosimilar SB4 (bsETA) were matched (1:n) to patients who stayed on the original treatment using prescription time distribution matching [1] to control for survival bias. Matching criteria were sex, time of switch or corresponding duration of originator treatment in non-switchers and age as well as DAS28 at the time of switching or corresponding time point in non-switchers. The retention rates over one year were analyzed using Kaplan-Meier curves.

Results: Overall, 1,751 patients fulfilled the inclusion criteria of whom 113 were switched to bsETA. Of these, 102 switchers could be matched to 598 patients who remained on oETA. In both groups, 78% of the patients were female, mean age was about 59 years, DAS28 was 3.2 and physical function as well as numbers of prior biologics were similar. Patients who remained on oETA were more often rheumatoid factor positive (71% vs. 63%), had more erosions (56% vs. 47%) and had more frequently three or more comorbidities (34% vs. 28%) than those who were switched to bsETA. The most common reason for switching was costs (79%). After one year, 35% of the patients in both groups had stopped the respective treatment (oETA, n=210, bsETA, n=36). The main reasons for withdrawal were loss of efficacy (oETA: 57%, bsETA: 36%) and adverse events (oETA: 20%, bsETA: 42%). In both groups about the same portion of the adverse events that led to treatment discontinuation were serious events (24% vs. 27%). Kaplan-Meier curves showed similar retention rates over 12 months for bsETA and oETA (figure). Nine bsETA patients were switched back to oETA.

Conclusion: Retention rates of etanercept treated RA patients who were either switched to the biosimilar SB4 or who stayed on the originator are comparable. Only few patients switched back to the originator.

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Figure. Treatment continuation in etanercept patients who were either switched to the biosimilar SB4 or stayed on the originator.

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