±20.5, and median BML size was 489.6 mm^2. After 24 months, there was no significant difference in changes in knee pain (WOMAC pain: −37.5 vs −58.0, p=0.205; VAS pain: −11.5 vs −16.8, p=0.17) or function scores (−134.9 vs −159.2, p=0.65), or knee BML size (−33.5 mm^2 vs −11.7 mm^2, p=0.68) between the ZA group and the placebo group. Pre-specified analyses consistently showed that ZA was more effective than placebo in patients without radiographic OA (JSN Grade 0) on changes in WOMAC pain (−88.3 vs −42.6, p=0.21), VAS pain (−21.8 to −8.3, p=0.11), WOMAC function (−296.9 vs −78.5, p=0.06) and BML size (−67.4 vs 98.2, p=0.14). Adverse events were more frequent in the ZA group, primarily flu-like symptoms and musculoskeletal pain and stiffness.

Conclusions: Once-yearly infusion of ZA did not significantly reduce knee pain or BML size overall in knee OA patients over 24 months but may have symptomatic benefit in milder disease.

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OP0017 THE IMPACT OF THE DURATION OF BISPHOSPHONATE DRUG HOLIDAYS ON HIP FRACTURE RATES

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Background: Given FDA warnings, drug holidays (temporary or permanent discontinuation) of bisphosphonates (BPs) after long-term (3–5 years) continuous therapy is becoming increasingly common in the United States (US). However, the benefits and risks of stopping BPs, and the optimal timing to restart, remain unclear.

Objectives: We conducted a population-based cohort study of women on long term BP therapy to evaluate the rate of hip fracture following a drug holiday.

Methods: We used Medicare data (2006–2014) to identify all women with medical and pharmacy coverage who initiated a BP and were at least 80% adherent for ≥3 years ('baseline'), at which follow-up time began. Patients using other bone therapies (e.g. denosumab, oestrogen, teriparatide, calcitonin) were excluded or censored if they started after follow-up began. We calculated crude rates of hip fracture for continuing BP therapy and among those who discontinued, for categories of time since discontinuing (i.e., length of drug holiday), extending up to 3 years. We used Cox proportional hazards models to evaluate the risk of discontinuing per the length of the drug holiday, using age as the time axis and controlling for potentially confounding factors, with and without adjusting for death as a competing risk.

Results: We identified 1 56 236 women who were highly adherent, long-term BP users. The mean (SD) age was 78.5 (7.5) years. The most commonly used BPs were alendronate (71.7% ever use, 52% exclusive use) and zoledronic acid (16.2% ever use, 8.9% exclusive use). During a median (IQR) followup of 2.1 (1.0, 3.3) years, 62 676 (40.1%) of women stopped BP therapy for at least 6 months or more. Among these women, 7947 (12.7%) subsequently restarted any BP. Overall, 16 904 (10.8%) died.

A total of 3745 hip fractures occurred during follow-up. Hip fracture rates were lowest among women who were current users, and gradually increased as the length of the drug holiday increased, achieving their maximum with a drug holiday >2 years (table 1).

Abstract OP0017 – Table 1. Hip fracture rate by duration of BP drug holiday, adjusting for competing risk of death

Time since Bisphosphonate Discontinuation (yrs)	Number of hip fractures, n	Crude Incidence Rate per 1000 person-years	Adjusted* Hazard Ratio (95% CI)
0 (i.e. current use)	1958	9.6 (9.2–10.1)	1.0 (reference)
>0 to≤3 months	530	13.1 (12.0–14.3)	1.29 (1.17–1.42)
>3 months≤1 year	539	12.0 (11.0–13.1)	1.12 (1.02–1.24)
>1 to≤2 years	422	13.3 (12.0–14.6)	1.21 (1.09–1.35)
>2 to≤3 years	235	15.7 (13.7–17.8)	1.39 (1.21–1.59)

*adjusted for age, region, race, rural or urban, median income, calendar year, comorbidity (fragility fracture, charlson comorbidity index score), DXA, number of physician visits, care by a rheumatologist or endocrinologist, long term care residence, vitamin D deficiency, glucocorticoids, and proton pump inhibitors

Conclusions: In a large cohort of U.S. women, a BP drug holiday greater than 2 years was associated with a significantly increased risk for hip fracture of up to 39% compared to continued BP use.

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OP0018 THE VALUE OF ADDING MRI TO A CLINICAL TREAT-TO-TARGET STRATEGY IN RHEUMATOID ARTHRITIS PATIENTS IN CLINICAL REMISSION: CLINICAL AND RADIOGRAPHIC OUTCOMES FROM THE IMAGINE-RA RANDOMISED CONTROLLED TRIAL

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Background: Targeting MRI remission in rheumatoid arthritis (RA) patients in clinical remission may improve clinical outcome and halt joint damage progression.

Objectives: To determine whether a treat-to-target (T2T) strategy based on structured MRI assessments targeting absence of osteitis/bone marrow oedema (BME) would lead to improved clinical and radiographic outcomes, compared with a conventional T2T strategy in RA patients in clinical remission.

Methods: The IMAGINE-RA study was a 2 year investigator-initiated, randomised, open-label multicentre study. Two hundred RA patients in clinical remission (defined as: DAS28-CRP<3.2 and no swollen joints) receiving conventional synthetic disease-modifying antirheumatic drugs (csDMARDs) were randomly assigned 1:1 to a conventional DAS28-CRP guided T2T strategy, targeting

Abstract OP0018 – Table 1. Primary and secondary outcomes at 24 months

	MRI T2T	Conventional T2T	Difference between groups	P value*
Primary endpoints				
Radiographic:				
No radiographic progression, n (%)	49 (66.2%)	58 (62.4%)	OR, 1.19 (0.04 to 39.47)	0.922
Clinical:				
DAS28-CRP remission (DAS28<2.6), n (%)	64 (85.3%)	83 (88.3%)	OR, 1.03 (0.31 to 3.43)	0.958
Secondary endpoints				
Clinical				
ACR-EULAR Boolean remission, n (%)	37 (49.3%)	30 (31.9%)	OR, 4.19 (1.30 to 13.57)	0.017
SDAI remission (SDAI≤3.3), n (%)	48 (64.0%)	56 (62.2%)	OR, 1.67 (0.59 to 4.71)	0.336
CDAI remission (CDAI≤2.8), n (%)	53 (69.7%)	59 (64.8%)	OR, 2.75 (0.90 to 8.36)	0.075
DAS28-CRP	1.9 (0.1)	2.1 (0.1)	-0.2 (-0.3 to 0.0)	0.093
Morning stiffness, min	13.1 (3.2)	10.1 (2.9)	3.0 (-5.4 to 11.4)	0.486
Tender joint count (0-28)	0.2 (0.1)	0.5 (0.1)	-0.2 (-0.6 to 0.1)	0.171
Swollen joint count (0-28)	0.0 (0.1)	0.3 (0.1)	-0.3 (-0.5 to -0.0)	0.038
Patient VAS global (0-100)	15.5 (1.8)	21.2 (1.6)	-5.7 (-10.4 to -0.9)	0.019
Patient VAS pain (0-100)	14.2 (1.7)	18.7 (1.6)	-4.5 (-9.0 to 0.0)	0.052
Patient VAS fatigue (0-100)	21.8 (1.9)	24.4 (1.7)	-2.6 (-7.7 to 2.4)	0.311
Physician VAS global (0-100)	4.7 (0.8)	6.9 (0.8)	-2.3 (-4.4 to -0.1)	0.041
Radiographic				
Change in TSS	1.0 (0.3)	1.3 (0.3)	-0.3 (-1.1 to 0.6)	0.559
Function and quality of life				
Change in HAQ	-0.052 (0.024)	0.091 (0.023)	-0.143 (-0.209 to -0.078)	<0.001
Patient with normal function (HAQ≤0.5), n(%)	61 (80.3%)	75 (79.8%)	OR, 0.73 (0.08 to 7.14)	0.790
Change in SF-36 PCS	1.1 (1.0)	-0.2 (0.9)	1.3 (-1.3 to 4.0)	0.330
Change in SF-36 MCS	-0.5 (1.0)	-0.9 (0.9)	0.5 (-2.1 to 3.0)	0.727
Change in EQ-5D	0.040 (0.015)	0.019 (0.013)	0.021 (-0.017 to 0.060)	0.279

95% CI, 95% confidence interval; ACR=American College of Rheumatology; CDAI=Clinical Disease Activity Index; CRP=C-reactive protein; DAS28-CRP=Disease activity score in 28 joints based on four variables, including CRP; EQ-5D=EuroQol-5 dimensions; EULAR=European League Against Rheumatism; HAQ=Health Assessment Questionnaire; MCS= Mental Component Summary score; MRI=Magnetic Resonance Imaging; PCS=Physical Component Summary score; RAMRIS=RA magnetic resonance imaging scoring system; SDAI=Simplified Disease Activity Index; SF-36=Short Form 36 item questionnaire; T2T=treat-to-target; TSS=Total Sharp/van der Heijde score; VAS=Visual Analogue Scale. Data are presented as least square means (SE) unless otherwise stated. Analyses are based on full analysis set (patients having a baseline visit and at least one follow-up visit) with no data imputation to replace missing data.*P values are based on repeated-measures logistic regression models. For some of the variables, fewer patients were included in the analyses due to missing data, with the minimum being 86 patients in the MRI T2T arm (range 86-98) and 91 (range 91-99) in the conventional T2T arm.

DAS28-CRP<3.2 and no swollen joints or an MRI guided T2T strategy based on the same clinical T2T strategy and MRI targeting absence of BME. Patients were followed every 4 months over a 2 year follow-up period. In the MRI T2T arm contrast-enhanced MRI of the dominant hand 2nd-5th metacarpophalangeal joints and wrist was performed ahead of the clinical visit and evaluated for presence/absence of BME. Treatment was escalated according to a predefined treatment algorithm if target was not reached, starting with increments in csDMARD mono/combination therapy and then adding biologic DMARDs. The co-primary endpoints were 1) proportion of patients achieving DAS28-CRP remission (DAS28-CRP<2.6) and 2) proportion of patients with no radiographic progression (change in total Sharp/vdHeijde score ≤0) 24 months from baseline. Secondary outcomes included various clinical, functional, radiographic and MRI variables. Pearson's chi-square statistics and repeated-measures logistic regression models were used to assess primary and secondary outcomes.

Results: Primary and secondary clinical and radiographic outcomes at 24 months are presented in the table 1. 76 patients in the MRI T2T arm and 95 patients in conventional T2T arm completed the study. Of them 64 patients (85%) in the MRI T2T arm and 83 patients (88%) in the conventional T2T arm reached the primary clinical endpoint (chi-square=0.324, p=0.569) and 49 patients (66%) in the MRI T2T arm and 58 (62%) in the conventional T2T arm reached the primary radiographic endpoint (chi-square=0.265, p=0.606). ACR/EULAR remission rates, swollen joint count, patient VAS global and HAQ favoured the MRI T2T arm (p<0.038).

Conclusions: Targeting absence of MRI BME in addition to a conventional T2T strategy in RA patients in clinical remission had no effect on the probability of achieving DAS28-CRP remission or halt radiographic progression. However, more patients achieved ACR/EULAR remission and improvements in physical function when MRI was used for treatment guidance.

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OP0019 BARICITINIB IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE): RESULTS FROM A PHASE 2, RANDOMISED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY

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Background: Baricitinib (Bari), an oral selective inhibitor of Janus kinase (JAK)1 and JAK2, has been approved for the treatment of RA in the EU and Japan.

Objectives: To report results from a 24 week (wk) global, Phase 2, double-blind, placebo (PBO)-controlled study of Bari in patients with SLE receiving standard therapy.

Methods: Patients with SLE (positive ANA or anti-dsDNA, clinical SLEDAI-2K≥4, arthritis or rash required) receiving stable background SLE therapy were randomised 1:1:1 to PBO, or Bari (2- or 4 mg) once daily. The primary endpoint was resolution of SLEDAI-2K arthritis or rash at wk 24.

Results: Of 314 patients randomised, 79%, 82%, and 83% completed 24 wks of treatment in PBO, Bari 2 mg, and Bari 4 mg groups, respectively. At wk 24, a significantly greater proportion of patients in Bari 4 mg group compared to PBO achieved resolution of SLEDAI-2K arthritis or rash (67% vs 53%, p<0.05); and SRI-4 response (64% vs 48%, p<0.05). At Wk24, the proportion of patients achieving flare reduction (SELENA-SLEDAI Flare Index [SFI]), Lupus Low Disease Activity State (LLDAS), and tender joint count (TJC) change from baseline were also significantly improved for Bari 4 mg compared to PBO (table 1). No statistically significant differences were observed between Bari 2 mg and PBO in any of the above endpoints. Rates of AEs leading to treatment discontinuation and SAEs were higher for both Bari dose groups compared to PBO. There were no deaths, malignancies, major adverse cardiovascular events, tuberculosis, or serious herpes zoster infections; one SAE of deep vein thrombosis was reported in a patient with risk factors (Bari 4 mg group).

Abstract OP0019 – Table 1

	PBO (n=105)	Bari 2 mg (n=105)	Bari 4 mg (n=104)
Efficacy measure		**Week 24**	
Resolution of arthritis or rash (SLEDAI-2K)	56 (53.3)	61 (58.1)	70 (67.3)*
SRI-4	50 (47.6)	54 (51.4)	67 (64.4)*
Flare (SFI, any severity)	54 (51.4)	45 (42.9)	34 (32.7)*
Flare (SFI, severe)	12 (11.4)	10 (9.5)	6 (5.8)
LLDAS	27 (25.7)	35 (33.3)	40 (38.5)*
DTJC	−5.59	−6.50	−6.86*
DSJC	−4.60	−4.12	−4.76
DCLASI activity score	−2.80	−1.66	−2.27
DWorst pain	−0.56	−1.17	−1.31*
DWorst fatigue	−1.18	−1.13	−1.52
Safety measure		**Weeks 0–24‡**	
TEAEs	68 (64.8)	75 (71.4)	76 (73.1)
SAEs	5 (4.8)	11 (10.5)	10 (9.6)
Serious infections	1 (1.0)	2 (1.9)	6 (5.8)
Deep vein thrombosis	0	0	1 (1.0)

Data are n (%) patients, unless otherwise indicated. D=least squares mean change from baseline. ‡Includes up to 30 days post treatment. CLASI=Cutaneous Lupus Erythematosus Disease Area and Severity Index; n=number of patients in the analysis population; n=number of patients in the specified category; TEAE=-treatment emergent adverse event.*p≤0.05.

Conclusions: In patients with SLE receiving standard background therapy, once-daily oral Bari 4 mg was associated with significant clinical improvements compared to PBO and an acceptable benefit/risk profile. These findings support further study of Bari 4 mg as a potential therapy for patients with SLE.

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