American Shoulder and Elbow Surgeons Shoulder Evaluation Form (ASES), EQ-5D-5L score and patient global assessment (PGA) score. All endpoints were assessed through 24 weeks.

Results: Clinically relevant improvement in both SEC and PBO groups on top of SoC treatment was observed, with no statistically significant difference demonstrated in the full study population on physical symptoms and function (Table 1). Similar results were observed in the secondary endpoints with marked improvement in both groups over time. Exploratory post-hoc analyses in a subpopulation of 39% of the study subjects with non-acute, moderate to severe disease, SEC provided significant and clinically relevant improvements vs PBO through Week 24 in total WORC score (overall treatment difference: 19.2, $p < 0.01$) and pain (VAS, overall treatment difference: 15, $p = 0.02$) with early effect observed after two weeks (Figure 1). A favourable treatment effect in the more severe subgroup was demonstrated in other patient-reported outcomes. No serious adverse events were reported.

Conclusion: Although SEC did not demonstrate a significant benefit vs PBO in the overall patient population with active overuse RC TP, SEC did provide benefit in the subpopulation with non-acute, moderate to severe disease. Larger clinical trials of SEC in this area are warranted.

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Table 1. Change from baseline in the SEC versus PBO groups in WORC index and pain (VAS)

Visit	SEC 300 mg	PBO	p-value
Total treated population N=96			
WORC Index percentage score (0 worst -100 best)^a			
Day 29	22.35	19.49	0.45
Day 99	37.00	37.77	0.87
Day 169	43.41	40.97	0.64
Pain (VAS, 0 best - 100 worst)^b			
Day 29	-26.04	-23.13	0.57
Day 99	-46.11	-40.56	0.28
Day 169	-52.23	-50.74	0.78
Post-hoc population* N=37			
WORC Index percentage score (0 worst - 100 best)^c			
Day 29	30.09	10.84	0.002
Day 99	48.26	31.83	0.048
Day 169	55.98	35.24	0.028
Pain (VAS, 0 best - 100 worst)^d			
Day 29	-29.20	-14.85	0.125
Day 99	-51.48	-35.37	0.045
Day 169	-57.01	-46.64	0.217

^aDay 1: SEC 42.47, PBO 40.47; ^bSEC 67.04, PBO 64.85; ^cSEC 35.93, PBO 32.90, ^dSEC 71.72, PBO 67.58. Day 1 values are given as absolute values to describe baseline WORC/Pain status. *Post-hoc subpopulation: Baseline: (Disease duration 2-6 months) AND (WORC ≤ 40 OR Tear Thickness (Bauer) ≥ 1 OR Sein ≥ 2) PBO, placebo; SEC, secukinumab; SoC, standard of care; WORC, Western Ontario Rotator Cuff Index; VAS, visual analogue scale

Figure 1. Post-hoc analysis of function (WORC) in the treatment groups in non-acute, moderate to severe subpopulation SECSE, standard error; SEC, secukinumab; WORC, Western Ontario Rotator Cuff Index

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Epidemiology: Big Questions - Big studies

POS0021

INTERMETATARSAL BURSTITIS, A NOVEL FEATURE OF JUXTA-ARTICULAR INFLAMMATION IN EARLY RHEUMATOID ARTHRITIS: RESULTS FROM A LONGITUDINAL MRI-STUDY

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Background: Rheumatoid arthritis (RA) is characterised by inflammation of the synovial lining. In addition to synovitis, the tendon sheaths of small hand and foot joints are also frequently inflamed. This results in tenosynovitis, which is often missed at clinical evaluation in early RA but visible on imaging, such as MRI. A third anatomical structure surrounded by a synovial lining is formed by the intermetatarsal bursae in the forefeet. Inflammation of these bursae (intermetatarsal bursitis; IMB) was recently identified at MRI-studies and shown to be specific for early RA.[1] This suggests that IMB is also a feature of early RA.

Figure. (A) Example MR-image of IMB co-occurring with synovitis and flexor tenosynovitis; **(B)** IMB-size and total RAMRIS-inflammation in the forefoot over time

Legend

(A) Full arrows: IMB; Dotted arrow: tenosynovitis; Arrowhead: synovitis.

(B) * β signifies the association of change in averaged IMB-size with change in total RAMRIS-inflammation between 0-12 months, estimated using GEEs. IMB-decrease was statistically significantly associated with total RAMRIS-inflammation decrease at the 0.05 level.

Objectives: We hypothesised that if IMB is indeed an RA-feature, then (1) at diagnosis its presence associates with other measures of local inflammation (synovitis, tenosynovitis and osteitis) and (2) it responds to DMARD therapy similarly as these other local inflammatory measures. These hypotheses were tested in a comprehensive MRI-study.

Methods: 157 consecutive early RA patients underwent unilateral contrast-enhanced 1.5T MRI of the forefoot at diagnosis. MRIs were evaluated for presence of IMB and for synovitis, tenosynovitis and osteitis in line with the RA MRI scoring system (summed as RAMRIS-inflammation). MRIs at 4, 12 and 24 months were evaluated for presence and size of IMB-lesions in patients who had IMB at baseline and received early DMARD-therapy. Logistic regression was used for analyses at patient-level; generalised estimating equations were used for bursa-level analyses. Stratification for ACPA was performed.

Results: 69% of RA patients had ≥ 1 IMB. In multivariable analyses on bursa-level, presence of IMB was independently associated with local presence of synovitis and tenosynovitis (OR 1.69 (95%CI 1.12–2.57) and 2.83 (1.80–4.44), respectively), but not with osteitis. On patient-level, presence of IMB was most strongly associated with tenosynovitis (OR 2.92 (1.62–5.24)). During treatment with DMARDs, the average size of IMB-lesions decreased (Figure 1). This decrease was associated with decrease in RAMRIS-inflammation scores; most strongly with a decrease in synovitis but not in osteitis. Within ACPA-positive and ACPA-negative RA similar results were obtained.

Conclusion: IMB particularly accompanies inflammation of the synovial lining of joints and tendon-sheaths, both regarding simultaneous occurrence at diagnosis and simultaneous treatment-response. These findings suggest that IMB represents juxta-articular synovial inflammation and indeed is a hallmark of early RA.

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POS0022

PHARMACOVIGILANCE PREGNANCY DATA IN A LARGE POPULATION OF PATIENTS WITH CHRONIC INFLAMMATORY DISEASE EXPOSED TO CERTOLIZUMAB PEGOL: PREGNANCY OUTCOMES AND CONFOUNDERS

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Background: Chronic inflammatory diseases (CID) in women of reproductive age are increasingly being treated with tumour necrosis factor inhibitors (TNFi), in line with recent guidelines.¹ However, data on TNFi-exposed pregnancy outcomes are still limited. Certolizumab pegol (CZP), a PEGylated, Fc-free TNFi, has no/minimal placental transfer from mother to infant during the third trimester.²

Objectives: To assess pregnancy outcomes from the UCB Pharmacovigilance safety database from over 1,300 prospectively reported pregnancies with maternal CZP exposure.

Methods: Details of CZP-exposed pregnancies from the UCB Pharmacovigilance safety database were reviewed up to November 1, 2020. Analysis was limited to prospectively reported cases with known pregnancy outcomes to avoid potential reporting bias. Confounders (specific CID, non-biologic medications and maternal infection) were evaluated using a multivariate stepwise regression model; results from the confounders analysis are reported as odds ratios (OR) with 95% confidence intervals (CI). Patients with missing information about presence or absence of confounders were excluded from the model.

Results: 1,392 prospective pregnancies (1,425 fetuses) with maternal CZP exposure and known outcomes were reported (Figure 1). Mean (SD) maternal age was 31.9 (5.1) years. Of these, 1,021/1,392 (73.3%) pregnancies had at least first-trimester CZP exposure and 547/1,392 (39.3%) were exposed during all trimesters. Overall, there were 1,259/1,425 (88.4%) live births, 150/1,425 (10.5%) abortions (miscarriages and terminations), 11/1,425 (0.8%) stillbirths, and 5/1,425 (0.4%) ectopic pregnancies. Congenital malformations were reported in 35/1,425 fetuses (2.5%) and in 30/1,259 live-born infants (2.4%); 26 (2.1%) congenital malformations were major according to the Metropolitan Atlanta Congenital Defects Program criteria. There was no pattern of specific congenital malformations. Preterm births occurred in 124/1,259 (9.8%) live births, and 101/1,259 (8.0%) of infants had low birth weight (<2.5 kg). In the confounders analysis, reported corticosteroid use was independently

associated with increased odds of preterm birth (OR [95% CI]: 2.1 [1.3–3.4]; $p < 0.005$) and low birth weight (OR [95% CI]: 1.7 [1.0–2.9]; $p < 0.05$), but decreased odds of abortion (OR [95% CI]: 0.5 [0.3–0.9]; $p < 0.05$). Reported NSAID use was associated with increased odds of abortion (OR [95% CI]: 2.2 [1.2–4.0]; $p < 0.05$), as was methotrexate/leflunomide use (OR [95% CI]: 3.2 [1.7–6.2]; $p < 0.0005$). Maternal infections were associated with increased odds of preterm birth (OR [95% CI]: 1.9 [1.1–3.5]; $p < 0.05$). Finally, there was an association between a diagnosis of Crohn's disease and odds of abortion (OR [95% CI]: 2.5 [1.5–4.1]; $p = 0.0005$), and between rheumatoid arthritis and low birth weight (OR [95% CI]: 1.9 [1.1–3.3]; $p < 0.05$).

Conclusion: This prospective analysis, including more than 1,000 pregnancies with CZP exposure in at least the first trimester, represents one of the largest cohorts of pregnancies with known outcomes in patients with CID. Our data confirm the impact of specific CID, concomitant drugs or comorbidities on pregnancy outcomes. In particular, additional use of corticosteroids was highlighted as a risk factor for preterm birth and low birth weight in our cohort of CZP-treated patients. No increase in adverse pregnancy outcomes or specific congenital malformations was observed in CZP-exposed pregnancies, compared to the general population,^{3,4} which offers further reassurance for women of childbearing age considering CZP treatment.

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Figure. Reports of pregnancies exposed to CZP identified in the UCB Pharmacovigilance safety database

Some patients may have had multiple indications for CZP treatment. axSpA: axial spondyloarthritis; CZP: certolizumab pegol; PsA: psoriatic arthritis; RA: rheumatoid arthritis.

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POS0023

RACIAL/ETHNIC AND REGIONAL DIFFERENCES IN MULTIMORBIDITY BETWEEN PATIENTS WITH RHEUMATOID ARTHRITIS AND COMPARATORS IN A LARGE NATIONWIDE US STUDY

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