Conclusion: While the pharmacy cost was higher for abatacept compared to adalimumab driven by the rebate, due to its higher clinical efficacy, the CPR was consistently lower for SE+ RA patients treated with abatacept. The results may be useful for US healthcare decision makers in understanding how to optimize treatment for SE+ RA patient while minimizing costs in today's budget constrained environment.

Figure 1. Proportion of responders by treatment data from the Early AMPLE trial

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AB1165

MEDICATION ADHERENCE DATA IN A RANDOMIZED TRIAL: LARGE CHALLENGES TO COME FROM RAW DATA TO A WORKABLE AND RELIABLE DATASET

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Background: Medication adherence in the GLORIA trial, among elderly patients with rheumatoid arthritis, is measured with caps that register openings of the medication bottle. At each study visit, one or two medication bottles with cap (kits) are dispensed, each containing 90 capsules. Multiple steps are needed to come to a workable dataset to describe adherence.

Objectives: To describe the steps that are needed to come from raw data to a workable dataset to analyze adherence data that are recorded by electronic caps.

Methods: The medication bottle contains a cap with the ability to register cap openings. The raw dataset from the caps consist of an excel file with one opening

event per row, recorded as date and time. One cap yields approximately 90 rows. First, the kit numbers were matched to the corresponding patient numbers, that are recorded in another excel file. Instances where two kits were dispensed were recorded with two kit numbers in one cell and need to be copied to two cells with one kit number. Second, the VLOOKUP function was used to combine dates and kit numbers. One row now contains all openings from one kit. Then, the number of days between first opening and each next opening date was calculated. A range of 90 days was made to calculate how many times the bottle was opened on each day of the 90-days period. The results were color-coded to visualize instances of zero, one or ≥two openings on a day.

Results: The colored calendar matrix (Figure 1) can now be used to categorize adherence patterns.

Figure 1. Example of calendar matrix of four caps of one patient. Yellow=no opening, green=1 opening, blue=≥2 openings.

Conclusion: A monitoring cap seems a simple instrument to measure adherence. However, multiple steps and a lot of time are needed to come to a workable dataset for the study of adherence patterns.

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AB1166

DETERMINANTS OF REPOSITORY CORTICOTROPIN INJECTION TREATMENT INITIATION FOR PATIENTS WITH RHEUMATOID ARTHRITIS IN A LARGE CLAIMS DATABASE

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Background: The treatment goal in rheumatoid arthritis (RA) is sustained remission and prevention of RA flares [1]. While targeted biologics have improved disease outcomes, almost one-third of patients (pts) discontinue treatment by 1 year and 50% by 2 years, with lack of efficacy as the most common reason [2]. Repository corticotropin injection (RCI) is a naturally sourced complex mixture of adrenocorticotrophic hormone analogues and other pituitary peptides and is an agonist for all 5 melanocortin receptors (MCRs). Activation of MCRs by RCI has been shown to have direct and indirect anti-inflammatory and immunomodulatory effects. RCI is indicated for adjunctive therapy for short-term administration in RA flares or uncontrolled disease [3].

Objectives: To characterize RA pts that initiate RCI therapy and identify predictors of RCI initiation, compared to biologic disease-modifying antirheumatic drugs (DMARDs).

Methods: This retrospective cohort study identified pts with ICD-9/10 diagnosis for RA over an 11-year period (2008-2018) in a large claims database (Truven MarketScan®). Adults with ≥1 claim for RCI (RCI cohort) or ≥1 RA-related biologic claim but no RCI (non-RCI cohort) were selected and characterized by demographics, disease severity (Claims-based Index for RA Severity, CIRAS), comorbidities (Charlson Comorbidity Index, CCI), treatment patterns, and healthcare resource utilization in the 12-month baseline (BL) period prior to their index date (i.e., the 1st RCI claim or last claim for biologic for non-RCI cohort). Predictors of RCI initiation were identified by multivariable logistic regression, controlling for demographics and BL characteristics.

Results: A total of 393 pts initiated RCI therapy while 188,062 initiated biologic treatment with no RCI claims. At BL, cohorts were similar with respect to mean age (~56 years), gender (76-79% female), and insurance type (79-80% commercial). Cohorts differed by region, plan type, and index year. Compared to non-RCI

patients, the RCI cohort had significantly higher CCI and CIRAS scores; higher use of traditional DMARDs (65.6% vs. 61.9%), corticosteroids (CS, 91.3% vs 68.8%), prescription nonsteroidal anti-inflammatory drugs (NSAIDs, 66.9% vs 58.5%), and opioids (67.7% vs 47.5%), but lower biologic use (45.8% vs. 87.7%) (all $p < 0.05$). RCI pts had significantly higher mean number of inpatient, emergency room, office, and outpatient visits (all $p < 0.05$).

RCI therapy initiation was most significantly impacted by treatment patterns, including number of DMARDs, CS, and opioids tried in the previous year (Figure 1). Corticosteroid use was the strongest predictor of RCI initiation, especially extended use at any dose ($OR \geq 2.6$) and extended use of the highest doses (>15 mg/day, $OR=8.5$), present in 21% of the RCI cohort (Figure 1). Drug benefit generosity (proportion of out-of-pocket costs) was also associated with RCI initiation in any plan qualified as better than "below average" ($OR=2.1-2.9$). Anemia, renal disease, and Sjogren's syndrome were also associated with higher odds of RCI initiation ($OR=1.4-2.1$).

Conclusion: RA pts initiating RCI therapy were prescribed a greater number of traditional DMARDs, CS, and opioids in the previous 12 months compared to non-RCI pts, and have evidence of more severe disease and comorbidities. Extended and high dose CS use were the factors most associated with RCI initiation.

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Figure 1. Predictors of RCI Initiation

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AB1167

PREGNANCY AND INFLAMMATORY ARTHROPATHIES: EXPERIENCE IN A MULTIDISCIPLINARY UNIT

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Background: Systemic inflammatory diseases are common in women at the reproductive age. These women may have fertility problems and complications during pregnancy.

Objectives: To describe the experience in a multidisciplinary unit (composed of Rheumatologists and Obstetricians) and assess the complications and treatments used in patients with inflammatory diseases in a tertiary hospital compared to those registered in healthy women from the same center (preterm births 6.59%, Caesarean section (C-section) 14.4%, maternal average age 33.33 years).

Methods: Retrospective and descriptive study of the evolution of pregnancy in patients with inflammatory diseases and follow-up in a multidisciplinary unit for more than 15 years (until December 2019). Demographics, maternal disease, time until conception, births, abortions, C-sections, treatments and complications were collected. Data was analyzed using IBM SPSS v23.

Results: We registered 29 pregnancies (25 patients): 20 Rheumatoid Arthritis (RA), 5 Psoriatic Arthritis (PsA), and 4 Spondylarthritis (SpA). Maternal average age at diagnosis was 27.6±6.36 years and average age at childbirth/abortion 35±5.6 years.

It took an average time of 8 months to conceive. 11.5% received fertility treatment using in vitro fertilization techniques.

5 abortions were registered prior to follow-up in this unit (0.2 abortions/mother). During follow-up 1 abortion (0.04 abortions/mother) was recorded in a RA patient. C-section was performed in 11 cases (39.2%): 6 RA (31.6%), 3 SpA (75%) and 2 PsA (40%).

17.2% of pregnancies were preterm (<37 weeks).

Intrauterine growth restriction (IUGR) was observed in a woman (3.4%) with RA and preeclampsia was observed in 2 cases (6.9%) (RA 1, SpA 1).

Disease activity (DAS28 and BASDAI) is shown in Table 1.

TABLE 1.

	DAS28 (median)				
	Previous	First Trimester	Second Trimester	Third Trimester	Posterior
Rheumatoid Arthritis	2.69	2.59	3.09	3.33	3.11
Psoriatic Arthritis	2.58	2.5	3.32	3.08	2.89
RA with biological agents (n: 6)	2.37	2.94	2.71	2.4	2.52
	BASDAI (median)				
Spondylarthritis	2.8	2.4	1.75	1	1.9

Treatments used prior to and during pregnancy are listed in Table 2.

TABLE 2.

TREATMENT BEFORE PREGNANCY	n (%)	TREATMENT DURING PREGNANCY	n (%)
Hydroxychloroquine	13 (44.8%)	Prednisone	17 (58.6%)
Prednisone	12 (41.4%)	Acetylsalicylic acid	16 (55.2%)
Methotrexate	9 (31%)	Hydroxychloroquine	15 (51.7%)
TNF inhibitors	7 (24.1%)	Sulfasalazine	2 (6.9%)
Sulfasalazine	2 (6.9%)	TNF inhibitors	2 (6.9%)

8 patients had received biological treatment prior to pregnancy (2 SpA, 6 RA)(3 Etanercept, 3 Adalimumab, 2 Certolizumab). 2 of them (RA) continued treatment during pregnancy. 1 of them discontinued it at week 17 on her own (Adalimumab) while the other continued with Certolizumab throughout pregnancy and presented IUGR. No other complications, such as infections or malformation, were observed in newborns. DAS28 data of these women can be found in Table 1.

Conclusion: In our series, as described in the literature, women with inflammatory arthropathies are older, need longer time to achieve pregnancy and have increased use of fertility techniques and increased likelihood of preterm and instrumental delivery compared to general population. Given the low number of patients receiving biological treatment no conclusions about complications and evolution of the disease can be drawn, so further investigation are needed in this group of patients.

Monitoring inflammatory arthropathies in a multidisciplinary unit increases the chances of successful pregnancies.

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AB1168

THE ANALYSIS OF "BIG DATA" AND PROCESSING OF UNSTRUCTURED INFORMATION (SEMANTIC HUB PLATFORM) TO IDENTIFY PATIENTS WITH SEVERE GOUT IN THE RUSSIAN FEDERATION.

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Background: the prevalence of gout and hyperuricemia (HU) in the world remains high, with a stable high incidence of severe gout [1]. There are no data on the prevalence and features of severe gout in the population of the Russian Federation (RF).

Objectives: To determine the percentage of patients (pts) with severe gout in the RF among pts with gout who are looking for information about their disease