Methods: Adult (≥ 18 yo) patients with symptomatic, refractory inflammatory mono- or oligoarthritis were included for RSO with Yttrium-90 citrate as part of a phase-III, prospective, open-label non-controlled trial. All patients were required to have failed 6-months of medical therapy and 2 intra-articular injections and have minimal evidence of cartilage or bone destruction. Only large and medium-sized joints were included (i.e. knees, ankles, wrists and elbows). The dose of Yttrium was adjusted based on the size of joint. Follow-up evaluations were done at 3, 6 and 12 months after RSO. Safety was assessed by patient and clinician reported adverse events. Clinical response was measured by improvement in joint tenderness, effusion and range of motion.

Results: A total of 74 patients and 83 joints (88% knees) were treated with Yttrium-90 citrate. The underlying diagnosis included 25.7% RA, 34% SpA, 11% JIA, and 30.3% other inflammatory arthritis. Complications included 3 post-RSO flares, 1 septic joint and 2 injection site skin infections. Joint tenderness was reported in 93.8% of joints at baseline, compared to 50.0% at 3mo ($p<0.001$), 55.6% at 6mo ($p<0.001$) and 40.4% at 12mo ($p<0.001$). Joint effusion was present in 95.1% of joints at baseline, 44.3% at 3mo ($p<0.001$), 51.4% at 6mo ($p<0.001$) and 47.4% at 12mo ($p<0.001$). 73.9% of joints had improvement in range of motion at 3mo, 55.9% at 6mo and 60.7% at 12mo.

Conclusion: These results confirm the clinical efficacy and safety of Yttrium90-citrate RSO for refractory synovitis with a sustained clinical benefit at 12 months. This is the first such study in a Canadian cohort. RSO with Yttrium is a safe alternative to surgical synovectomy in refractory cases.

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FRI0167

DOES BARICITINIB HAVE A SPECIFIC EFFECT PATIENT'S REPORTED OUTCOME? COMPARISON OF EFFECTS ON PAIN AND PATIENT GLOBAL ASSESSMENT WITH TNF INHIBITORS

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Background: Baricitinib (bari) is approved for treating moderate-severe rheumatoid arthritis (RA) in many countries, including Japan. Bari is an oral Janus kinase (JAK1)/JAK2 selective inhibitor and has shown good efficacy in RA and an adequate response to conventional synthetic DMARDs in some clinical trials. Pain and patient global assessment (PGA) are common symptoms for patients with RA. Some trials suggest that bari may have a supplementary benefit on patients' reported outcomes (PRO). Our goal was to determine the impact of each treatment on pain and PGA.

Objectives: We evaluated and compared the impact of bari and TNF inhibitors (TNFi) on pain and PGA and correlation with PRO and clinical assessments for Japanese RA patients who have an inadequate response to csDMARDs in real world multicenter clinical data.

Methods: We included 60 Japanese RA patients with an inadequate response to csDMARDs. We classified patients into two groups, one treated with bari (B group; 24 females and 8 males) and the other with TNFi (TNFi group; 22 females and 6 males). Patients were scheduled to receive TNFi (GLM 50 mg/month or ETN 50 mg/week) in TNFi group or bari 4 or 2 mg/day in B group as a monotherapy or in combination with csDMARDs. We evaluated swollen joint counts on 28 joints (SJC), tender joint counts on 28 joints (TJC), visual analog scale of pain (VAS pain) (0-100 mm), PGA (0-100 mm), and Clinical Disease Activity Index (CDAI) at baseline, 4 weeks, and 12 weeks. First, we compared the changes in SJC, TJC, CDAI, VAS pain, and PGA at 4 and 12 weeks after treatments between the two groups. Second, we evaluated the correlation between PROs (VAS pain or PGA) and variations in clinical evaluation items (SJC, TJC, and CDAI).

Results: There were no significant differences in background at baseline between the two groups (Table 1). Baseline SJC, TJC, and CDAI scores; VAS pain; and PGA were 6.67 ± 3.81 , 7.93 ± 3.69 , 26.35 ± 8.77 , 61.2 ± 21.8 , and 62.2 ± 18.4 in the bari group, respectively, and 6.13 ± 3.21 , 7.27 ± 3.56 , 24.65 ± 9.72 , 63.9 ± 22.7 , and 64.2 ± 18.4 in the TNFi group, respectively. SJC, TJC, CDAI scores, VAS pain, and PGA

in both groups were significantly improved 1 month after treatment. This tendency continued for 3 months after treatment. There were no significant differences in the improvement rate of SJC, TJC, CDAI scores, VAS pain, and PGA between the two groups at each follow-up time point after treatment. VAS pain scores were significantly correlated with SJC and CDAI scores in both groups (B group; $r = 0.651$, $p < 0.01$ and TNFi group; $r = 0.688$, $p < 0.01$). PGA scores were significantly correlated with SJC and CDAI scores in both groups (B group; $r = 0.657$, $p < 0.01$ and TNFi group; $r = 0.613$, $p < 0.01$).

Table 1. Patient's background

	Bari group	TNFi group
Age (year)	60.2 ± 10.4	60.6 ± 10.1
Disease duration (year)	4.00 ± 7.54	4.32 ± 5.13
Male/female	8/16	7/15
MTX dose (mg/week)	7.0 ± 3.0	7.0 ± 3.0
PLA dose (mg/day)	3.40 ± 2.06	3.37 ± 2.00
# of previous TNFi treatment (n)	60/7/10/9	59/6/10/8
Swollen joint (SJC)	66.7 (7.7)	65.7 (7.7)
Tender joint (TJC)	77.1 (8.7)	76.1 (8.7)

Table 2. Changes of clinical assessment

	Baseline	4 weeks	12 weeks
SJC	6.67 ± 3.81	3.00 ± 1.87*	3.00 ± 1.87*
TJC	7.93 ± 3.69	2.27 ± 1.50*	1.40 ± 1.37*
CDAI	26.35 ± 8.77	8.00 ± 3.84*	5.13 ± 3.07*
PLA dose (mg/day)	3.40 ± 2.06	3.40 ± 2.06	3.40 ± 2.06
MTX dose (mg/week)	7.0 ± 3.0	7.0 ± 3.0	7.0 ± 3.0

*p < 0.05 vs baseline

Conclusion: Our results indicate that the effect of bari on pain and PGA is correlated with the improvement rate in disease activity. Bari treatment is not significantly different than TNFi, at least during the short term, in real world clinical data.

REFERENCE:

[1] Perricone C, et al. Rheumatology (Oxford) 2012;51:866-73

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FRI0168

POSITIVE EFFECTS OF AN ANTI-INFLAMMATORY DIET IN RHEUMATOID ARTHRITIS

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Background: Many patients with rheumatoid arthritis (RA) experience symptom relief of certain foods and earlier research has shown positive effects of food and food components on clinical outcomes of RA. Food components may potentiate each other in their effects on RA, but even so, studies combining foods and food components with probable effects on RA are scarce. Furthermore, comorbidities are common in RA and the risk of cardiovascular disease is elevated in this group. Assumed mechanisms include classical risk factors such as systemic inflammation, dyslipidemia as well as an unfavorable body composition.

Objectives: We investigated if a diet combining foods with anti-inflammatory effects, i.e. an anti-inflammatory portfolio diet, could reduce RA disease activity, markers of inflammation, body composition and blood lipid levels compared to a control diet.

Methods: In this controlled cross-over trial, 50 patients with RA were randomized to start with either intervention or control diet for ten weeks followed by a wash-out period of four months. The intervention diet was an anti-inflammatory portfolio diet containing foods rich in omega-3 fatty acids, fibers and probiotics. The control diet was a typical Swedish diet. Food equivalent to 50% of daily energy needs was delivered home weekly. For the remaining intake, participants were instructed to consume similar foods as the study diet regimen. Primary outcome measure was change in DAS28, using ESR. Secondary outcomes included changes in blood lipid levels, ESR and CRP as well as body composition.

Results: No significant difference in DAS28 between the groups was seen using Mixed Models analyze ($p=0.116$). However, DAS28 was significantly lower after the intervention diet compared to after control diet ($p=0.04$) and a significant reduction over time was seen in the intervention group ($p=0.012$) using Wilcoxon signed rank test. HDL-cholesterol was increased and TG were lowered after intervention compared to control, analyzed using Mixed Models ($p=0.046$ and $p=0.006$ respectively). In addition, there was a non-significant trend towards lowered LDL-cholesterol ($p=0.077$). Comparing after intervention to after control, there were non-significant lower weight, BMI and fat mass after the intervention ($p=0.077$, $p=0.075$ and $p=0.058$ respectively). None of the other outcomes changed significantly between groups.

Conclusion: This study showed positive effects on disease activity and blood lipid levels of a diet combining foods with anti-inflammatory properties, but the results must be confirmed in larger studies.

REFERENCES:

- [1] Agca R, et al. EULAR recommendations for cardiovascular disease risk management in patients with rheumatoid arthritis and other forms of inflammatory joint disorders: 2015/2016 update. *Annals of the rheumatic diseases*. 2017;76(1):17-28.
- [2] Piepoli MF, et al. 2016 European Guidelines on cardiovascular disease prevention in clinical practice: The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts) Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR). *European heart journal*. 2016;37(29):2315-81.
- [3] Sködstam L, et al. An experimental study of a Mediterranean diet intervention for patients with rheumatoid arthritis. *Ann Rheum Dis*. 2003;62(3):208-14.
- [4] SLV. [Available from: <https://www.livsmedelverket.se/matvanor-halsamiljo/kostrad-och-matvanor/matvanor-undersokningar/riksmaten-2010-11-vuxna>.
- [5] Tedeschi SK, et al. Diet and Rheumatoid Arthritis Symptoms: Survey Results From a Rheumatoid Arthritis Registry. *Arthritis Care Res (Hoboken)*. 2017;69(12):1920-5.

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FRI0169

DOES INITIATING TOCILIZUMAB LEAD TO BETTER DISEASE CONTROL COMPARED TO INITIATING MTX WITH LOW-MODERATE DOSE PREDNISONE IN EARLY RHEUMATOID ARTHRITIS; AN INDIRECT COMPARISON OF U-ACT-EARLY AND CAMERA-II TREAT-TO-TARGET TRIALS

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Background: Treatment with methotrexate (MTX), often with concomitant glucocorticoids, is the cornerstone of early rheumatoid arthritis (RA) therapy. However, it may be less effective compared to (expensive) biological disease modifying anti-rheumatic drugs, such as tocilizumab (TCZ). Hitherto, the effectiveness and safety of MTX in combination with glucocorticoids have never been compared to TCZ with or without MTX.

Objectives: To compare effectiveness and safety of initiating TCZ, or TCZ with MTX (TCZ+MTX) to initiation of MTX with 10mg prednisone (MTX+Pred) all in a step-up treat-to-target treatment strategy in early RA patients.

Methods: Individual patient data of the U-Act-Early ($n=317$) and CAMERA-II ($n=236$) trials were used. Both were 2-year, double-blind, randomised, placebo-controlled studies evaluating step-up tight-control, treat-to-target treatment strategies with the opportunity to taper, in case of sustained remission, TCZ and/or MTX.^{1,2} Using MTX ($n=108+119$) as the reference strategy, TCZ+MTX ($n=106$) and TCZ ($n=103$) were compared with MTX+Pred ($n=117$): primary outcome was the disease activity score (DAS28) over time. Secondary outcomes were remission, defined as DAS28<2.6, and the ConReW score (cumulative occurrence of remission and sustainment of remission). To assess the influence of acute phase reactants (APRs) on the results a disease activity outcome without APRs was also analysed (i.e. CDAI, modified due to lack of VAS physician in CAMERA-II). Multiple imputation was used for missing baseline data: HAQ, rheumatoid factor (RF) and smoking status. Multi-level models were used to account for clustering of patients within trials and for repeated measurements within patients over time. All models were corrected for baseline DAS28, HAQ, RF-status and smoking using fixed (and random) effects.

Results: Differences between U-Act-Early and CAMERA-II for RF seropositivity and DAS28 at baseline were observed; respectively 73% vs. 60%

($p<0.01$) and 5.2 vs. 5.7 ($p=0.01$). DAS28 was statistically significantly lower over time for TCZ+MTX compared to MTX+Pred (mean difference: -0.62 [95%CI -1.14 to -0.10]), but not for TCZ, Table 1. Remission occurred more often in TCZ+MTX and TCZ compared to MTX+Pred: relative risk 1.11 [95%CI 1.02 to 1.22] and 1.09 [1.00 to 1.20], respectively. ConReW scores were in line but not statistically significant different, Table 1. When using modified-CDAI, TCZ strategies did not show better control of disease activity over time than MTX+Pred (mean difference in log transformed values: TCZ+MTX vs. MTX+Pred: 0.10 [95%CI -0.16 to 0.36]; TCZ vs. MTX+Pred: 0.24 [95%CI -0.04 to 0.52]), Table 1. No differences in safety outcomes could be established, Table 2.

Table 1 Differences in effectiveness outcomes over 24 months between TCZ (U-Act-Early) and MTX+Pred (CAMERA-II) strategy arms

	TCZ+MTX vs MTX+Pred	TCZ vs MTX+Pred
Mean difference (95% CI)	Mean difference (95% CI)	Mean difference (95% CI)
DAS28	-0.62 (-1.14 to -0.10)	-0.02 (-0.44 to 0.40)
ConReW	3.02 (-1.12 to 7.17)	0.14 (-0.14 to 0.41)
Modified CDAI	0.10 (-0.16 to 0.36)	0.24 (-0.04 to 0.52)
Relative Risk (95% CI)	Relative Risk (95% CI)	Relative Risk (95% CI)
Remission	1.11 (1.02 to 1.22)	1.09 (1.00 to 1.20)

Table 2 Differences in safety outcomes over 24 months between TCZ (U-Act-Early) and MTX+Pred (CAMERA-II) strategy arms

	TCZ+MTX vs MTX+Pred	TCZ vs MTX+Pred
Relative Risk (95% CI)	Relative Risk (95% CI)	Relative Risk (95% CI)
Adverse AE	1.02 (0.66 to 1.57)	0.92 (0.53 to 1.53)
Elevated ALT	1.48 (0.35 to 6.17)	0.60 (0.11 to 3.06)
Infections	0.99 (0.11 to 9.03)	1.00 (0.55 to 1.84)
Drop out due to AE	1.18 (0.38 to 3.93)	0.76 (-0.43 to 1.95)

* occurrence of 1 time

Conclusion: In early RA patients, TCZ-based strategies resulted in better DAS28 over time compared to MTX+Pred, as well as higher percentage of remission, part of these effects may be due to a specific effect of TCZ on APRs.

REFERENCES:

- [1] Bijlsma JWJ, et al. *Lancet*. 2016;388:343-55.
- [2] Bakker MF, et al. *Ann Intern Med*. 2012;156:329-339.

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FRI0170

PHYSICAL ACTIVITY LEVEL IN RHEUMATOID ARTHRITIS: A SYSTEMATIC REVIEW

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Background: Rheumatoid arthritis (RA) is one of the most common inflammatory rheumatism characterized by an increased cardiovascular risk. Regarding the last EULAR recommendations, physical activity is an important part of the management of RA. The evaluation of Physical activity level is needed to know RA patients practices. However, to our knowledge, there is no consensual measure tool of the physical activity level for patients suffering RA.

Objectives: The aim of this study is to evaluate the different methods of measurement of physical activity levels in RA.

Methods: This is a systematic review of literature realized on the pubmed and Cochrane databases and meeting the PRISMA recommendations. We used the following key words: « physical activity », « physical activity level » AND « rheumatoid arthritis ». We included only article written in English language and with RA patients older than 18 years old.

Results: We identified 190 studies with the key words, 51 were selected on title and 23 articles have been identified as eligible. Finally, 19 studies, 13567 RA patients were evaluated on their level of physical activity. There were 73,4% female with a mean age of 56,1 years. In 10 studies, the BMI was available with results between 25 and 30 kg/m². Two methods for measuring physical activity levels have been identified.