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.

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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
Effect size	Mean difference (95% CI)	Mean difference (95% CI)
DAS28	-0.62 (-1.14 to -0.10)	-0.44 (-1.00 to 0.12)
ConReW	3.02 (-1.12 to 7.17)	0.14 (-0.41 to 0.66)
Modified CDAI	0.10 (-0.16 to 0.36)	0.24 (-0.04 to 0.52)
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
Effect size	Relative Risk (95% CI)	Relative Risk (95% CI)
Elevated ALT	1.82 (0.66 to 5.37)	0.50 (0.23 to 1.03)
Elevated ACR	1.48 (0.35 to 6.17)	0.60 (0.31 to 1.16)
Infections	0.99 (0.11 to 9.03)	1.00 (0.55 to 1.86)
Drop out due to AE	1.18 (0.38 to 3.83)	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.

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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 were included in this review. In total, of the 19 selected 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.

Questionnaires, a subjective tool, were used in 13 studies. It should be noted that 8 different questionnaires were used in these studies with recurrent use of the IPAQ (international validated questionnaire in general population) and SQUASH (validated in English language in RA). In these studies, patients were predominantly sedentary with a proportion of patients meeting WHO physical activity recommendations ranging from 20 to 77%. It appears that Scandinavian patients are clearly the most active.

Concerning objective measurement tools, 9 studies evaluated the level of physical activity using activity tracker. 7 studies used the accelerometer, 1 used the VO2 max, 1 used an actimeter. All studies showed a sedentary behavior. In these studies, the results were expressed as energy expenditure and not as a percentage of patients meeting WHO recommendations. Thus, the comparison between the two methods is difficult, but accelerometer showed a significant decrease in the level of physical activity in RA.

The oldest studies (2002 and 2007) showed that only 30% of patient met the WHO recommendations, but the recent studies (2017 and 2018) showed the same prevalence of sedentary behavior. The disease activity and the disease duration were comparable between the different studies.

Conclusion: Patients with rheumatoid arthritis present a sedentary behavior. Objective and subjective tools showed the low level of physical activity over the past decade. These data illustrate the necessity of the promotion of physical activity in rheumatoid arthritis.

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FRI0171 CLINICAL RESPONSES IN PATIENTS WITH INADEQUATE RESPONSE TO bDMARDs UPON TREATMENT WITH UPADACITINIB

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Background: Upadacitinib (UPA), a JAK1-selective inhibitor, demonstrated efficacy in the SELECT-BEYOND study in patients (pts) with moderate to severe rheumatoid arthritis (RA) on a stable dose of csDMARDs who had inadequate response (IR) or intolerance to bDMARDs.

Objectives: In this analysis we evaluated clinical responses among pts receiving UPA and placebo (PBO) based on the number and mechanism of action (MOA) of prior bDMARDs.

Methods: 498 pts were randomized to UPA 15mg or UPA 30mg once daily (QD) or PBO for 12 weeks (wks), after which pts on PBO received UPA 15 or 30mg QD from Wk 12 onwards.¹ Pts were subgrouped by the number and/or MOA of bDMARD(s) received prior to enrollment: 1) lack of efficacy (LoE) to ≥ 1 anti-TNF, 2) LoE to an anti-IL-6, and 3) the number of prior bDMARDs (1 vs 2 vs ≥ 3). ACR20/50/70 responses, DAS28-CRP low disease activity (LDA, ≤ 3.2), CDAI LDA (≤ 10), and CDAI remission (≤ 2.8) were evaluated at Wk 12. The frequency and percentage of treatment-emergent adverse events (TEAE) in each subgroup was assessed over the first 12 wks. Missing values of the efficacy endpoints were imputed using non-responder imputation (NRI). Nominal *P*-values are reported without multiplicity adjustment.

Results: Overall baseline disease duration was 13 years. The majority of pts had LoE to ≥ 1 anti-TNF (449, 90%); 88 (18%) had LoE to an anti-IL-6; 235 (47%), 137(28%), and 125 (25%) had been treated with 1, 2, or ≥ 3 prior bDMARDs, respectively.¹ At Wk 12, clinical responses were numerically, and often statistically, better for pts receiving either dose of UPA vs PBO, irrespective of their prior bDMARD exposure and the number of prior bDMARDs received. As most pts had LoE to ≥ 1 anti-TNF, responses in this group were comparable to the overall study population (Table 1). Pts with LoE to an anti-IL-6 receiving UPA 15 or 30 mg QD experienced improvements vs PBO, particularly in achieving LDA and remission, although responses in these pts were generally lower compared to the overall study population. As expected, there was a trend towards lower responses as the number of prior bDMARDs increased (Table 2). Responses at Wk 24 were generally consistent with those at Wk 12 (data not shown). TEAEs across the subgroups were consistent with the overall study population (data not shown).

Conclusion: At Wk 12, treatment with UPA at either 15 or 30 mg QD led to significantly better clinical responses vs PBO in this treatment-refractory population, including in pts with LoE to an anti-TNF or an anti-

IL-6, and those who had IR/intolerance to 1, 2 or ≥ 3 prior bDMARDs, with consistent safety profiles as to the overall study population.

Acknowledgement: AbbVie, Inc was the study sponsor, contributed to study design, data collection, analysis & interpretation, and to writing, reviewing, and approval of final version. Medical writing support was provided by Naina Barretto, PhD, of AbbVie, Inc.

Parameter	UPA 15mg QD		UPA 30mg QD		PBO	
	n	%	n	%	n	%
ACR20	284	48.1**	307	50.0**	284	46.1**
ACR50	118	20.0**	121	19.3**	118	18.6**
ACR70	66	11.1**	68	10.8**	66	10.4**
LDA	145	25.0**	151	24.0**	145	22.8**
Remission	55	9.5**	58	9.3**	55	8.7**

Parameter	UPA 15mg QD		UPA 30mg QD		PBO	
	n	%	n	%	n	%
ACR20	12	33.3	15	42.9	12	33.3
ACR50	3	8.3	5	14.3	3	8.3
ACR70	1	2.8	2	5.7	1	2.8
LDA	5	14.3	8	22.9	5	14.3
Remission	1	2.8	2	5.7	1	2.8

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FRI0172 A PROSPECTIVE AUDIT OF A PATIENT COHORT PRESCRIBED HYDROXYCHLOROQUINE FOR RHEUMATOID ARTHRITIS AND OTHER INFLAMMATORY RHEUMATIC DISEASES IN ORDER TO PRIORITISE RETINOPATHY SCREENING AND ESTIMATE THE NEED FOR DRUG EDUCATION APPOINTMENTS

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Background: Hydroxychloroquine (HCQ) is prescribed for rheumatoid arthritis (RA), systemic lupus erythematosus (SLE) and inflammatory osteoarthritis (IOA). A potential side effect of HCQ is drug-induced retinopathy, with an increased risk reported for patients taking $>5\text{mg/kg/day}$ and those who have renal impairment.

In the United Kingdom, the Royal College of Ophthalmologists (RCO) has published new screening guidelines for HCQ, recommending 1) patients receive doses $<5\text{mg/kg/day}$ and 2) all patients planning to be on HCQ long term (≥ 5 years) should receive baseline eye examination ideally within 6 months of starting HCQ and definitely within 1 year.

Objectives: This audit aimed to: 1) audit dose prescription by body weight, 2) estimate the screening burden on ophthalmology services, 3) estimate service needs for additional drug education appointments to counsel patients starting HCQ.

Methods: A list of all patients who were started on HCQ from January 2017 to February 2018 was obtained from the outpatient pharmacy at Salford Royal Hospital. Demographic and clinical data were extracted from electronic patient records. High-risk patients were defined as those who were prescribed an initial dose of $>5\text{mg/kg/day}$ or those with an eGFR $\leq 50\text{ ml/min/1.73m}^2$. Patients were followed until the most recent follow-up visit by July 2018 to determine drug persistence and reasons for HCQ cessation, if any.

Results: 177 patients were started on HCQ, with most (62%) diagnosed with rheumatoid arthritis (Table). Most patients were female (76%) and a third (35%) were older than 60 years old. 9 patients (5.1%) had impaired renal function. 83 patients (47%) were prescribed an initial daily dose of HCQ $>5\text{mg/kg/day}$. By July 2018 (follow-up duration 6-19 months), 127 patients (71.8%) remained on HCQ and will need baseline eye screening.