In the PO MTX group, 8 (32%) patients required a change to SC MTX; in 87.5% of cases due to treatment inefficacy and 7 (87.5%) of these patients kept the SC route until the end of the study.

Abstract THU0161 – Figure 2

Out of the patients that began with SC MTX, the one that changed route to PO maintained a good response. All the patients with biologic DMARDs kept the SC MTX as adjuvant therapy. On the other hand, the 3 (12%) patients of the PO that used a biologic DMARD had suspended MTX several months before.

Abstract THU0161 – Figure 3

Both groups had a good response to MTX. There was a significant reduction in corticoid requirements during the first year of treatment (P < 0.05).

Abstract THU0161 – Figure 4

At the end of the study, 21 (41%) patients received SC MTX and the number goes up to 25 (49%) if we include those who also had biologic DMARDs.

Of those who suspended MTX, 85% were due to adverse effects, similar in both groups.

Conclusion:

- Our study suggests that patients that start with PO MTX require route administration changes more frequently than the SC group during the first year of follow-up.
- SC MTX was the route used by almost half the patients by the end of the study.
- We can also see that the inflammatory response to MTX was acceptable regardless of administration route and that corticoids could be reduced significantly in both groups.

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THU0162 WHICH PERSISTENCE OF METHOTREXATE AFTER INITIATION OF THE 1ST bDMARD IN RHEUMATOID ARTHRITIS? THE RETRO-RIC2 STUDY

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Background: ACR and EULAR guidelines recommend to prescribe bDMARDs and particularly TNFi in combination with methotrexate (MTX). However, the MTX observance in RA is poor, mainly due to side effect and some bDMARDs (IL6 receptor antagonist) are almost as effective in monotherapy.

Objectives: to evaluate MTX use (dosage, route of administration...) in RA after initiation of the first bDMARD.

Methods: RETRO-RIC2 is a multicentric retrospective study. Were included all patients with RA under MTX therapy at the initiation of the 1st bDMARD from October 2008 to September 2016. The main criteria is the persistence of MTX after 1 and 2 years.

Results: 409 patients were included : mean-age = 58.9 years, female 69%, RF positive 76% and ACPA positive 83%, mean RA duration = 13.14y and mean DAS28-ES=4.48. The mean duration of previous MTX therapy = 32 months (mean dose = 16.2mg/w). At the inclusion MTX was administrated by oral route in 52% and subcutaneous in 48%. The first bDMARD was a TNF inhibitor in 70%.

At inclusion, 1.2% of the patients switch from oral route MTX for subcutaneous; inversely in only 0.2% the SC route was switched for oral administration.

The results are presented in table 1 and Figure 1.

	NB patients evaluable	MTX dose reduction	MTX dose increase	MTS dose unchanged	MTX stopped
V-1/ inclusion	404	4.5%	2.7%	93%	0%
M0-M4	255	14.1%	6.3%	79%	0.4%
M4-M12	173	16.8%	5.4%	77%	1.2%
M12-M24	159	14.5%	4.4%	80%	1.3%

V-1 = last previous visit before inclusion

Abstract THU0162 – Figure 1

Conclusion: In almost all patients MTX dose and route of administration are unchanged at the initiation of the first bDMARD in RA. With a 2 years follow up 49.9% of MTX dose were reduced and MTX was stopped in 2.9%. At 2 years MTX route of administration is oral for 64% of the patients and s/c for 36%.

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THU0163

A DESCRIPTIVE ANALYSIS OF LONGITUDINAL CHANGES IN RELATIVE MARKET SHARE PROPORTIONS OF BIOLOGIC AND TARGETED SYNTHETIC DISEASE-MODIFYING ANTI-RHEUMATIC DRUGS FOR TREATMENT OF RHEUMATOID ARTHRITIS: DATA FROM THE OBRI DATABASE

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Background: For patients with Rheumatoid Arthritis (RA) who do not achieve adequate clinical response with combined conventional synthetic disease modifying anti-rheumatic drugs (csDMARDs), the next step in goal-directed therapy is initiation of either biologic DMARDs (bDMARDs) or targeted synthetic DMARDs (tsDMARDs). bDMARDs include tumour-necrosis factor inhibitors (TNFi) or non-TNFi classes. Since inception of Ontario Best Practice Research Initiative (OBRI), new treatment options have become available

Objectives: We aimed to describe the evolution of relative use of non-TNFi vs. TNFi in Ontario-based practices from 2008-2017.

Methods: Adult patients with RA enrolled in the OBRI who started therapy with bDMARDs or tsDMARDs anytime during, or up to 30 days before, enrollment were included. Using descriptive analysis of data from each year between 2008 and 2017, the relative proportion of the population treated with TNFi and non-TNFi therapy was measured for (i) all patients and (ii) those initiating their first bDMARD/tsDMARD. TNFi included: Etanercept, Adalimumab, Certolizumab, Golimumab, and Infliximab. Non-TNFi included: Abatacept, Rituximab, Tocilizumab, and Tofacitinib.

Results: A total of 1,057 patients were included of whom 653 were bDMARD/tsDMARD naïve. In 2008, the relative non-TNFi use was 3/56 (5.4%) in all patients and 0/31 (0%) in treatment-naïve patients. By 2013 the proportion non-TNFi use increased to 135/562 (24%) in all patients and 11/92 (12.0%) in treatment-naïve patients. This increasing trend in relative non-TNFi utilization continued in both groups until 2016 when relative use was 224/679 (33.0%) in all patients and 17/56 (30.4%) in treatment-naïve. This was followed by 144/426 (33.8%) and 4/15 (26.7%), respectively in 2017.

Conclusion: This descriptive analysis of data from the OBRI cohort shows an increase in the use of non-TNFi therapies. The overall trend towards greater use of non-TNFi therapies as first line agents after combined csDMARDs may be partially explained by the presence of guidelines that allow clinicians to select any of the above options as first line advanced therapies. Future analyses evaluating patient-, disease- and concomitant drug use-specific determinants of physician decision-making will be conducted.

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THU0164

THE DAS28 BASED ON THE ERYTHROCYTE SEDIMENTATION RATE MAY OVERESTIMATE DISEASE ACTIVITY IN EARLY, TREATMENT-NAÏVE PATIENTS WITH RHEUMATOID ARTHRITIS WITH HIGH LEVELS OF RHEUMATOID FACTOR

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Background: Disease activity in rheumatoid arthritis (RA) is commonly measured with the DAS28-ESR. However, ESR levels may be affected by factors not related to inflammation leading to possible disparities with the DAS28-CRP. In particular, increased levels of gammaglobulins may cause increase in ESR. In RA levels of autoantibodies such as rheumatoid factor (RF) and anti-citrullinated protein antibodies (ACPA) may be particularly high; however, their effect on the assessment of disease activity has not been investigated.

Objectives: To evaluate whether positivity and levels of RF and ACPA determine discordance between the DAS28-ESR and the DAS28-CRP, impacting on disease activity stratification in RA.

Methods: 578 early treatment-naïve RA patients (symptoms' duration <12 months) consecutively recruited at our Early Arthritis Clinic between 2005 and 2014 were studied. Paired DAS28-ESR and DAS28-CRP were obtained at baseline and after 6 months of therapy with conventional synthetic disease modifying anti-rheumatic drugs (csDMARDs). RF and ACPA were determined centrally on baseline sera, and levels were considered high when >3 times the upper limit of normal (ULN). Agreement between the disease activity scores was compared using Bland-Altman statistics before and after stratification for autoantibody-positivity and levels.

Results: Female/male ratio was 2.5:1, with mean (SD) age of 59.7 (14.8) years and median (IQR) symptoms' duration at inclusion of 15.6 (9.4 to 27.8) weeks. Mean DAS28-ESR values at baseline were 0.39 points higher compared to DAS28-CRP in the whole cohort, with more pronounced differences in females and subjects aged ≥65 years (Table 1). Collectively RF-positive patients had significantly higher discrepancies compared to -negative subjects (mean [SD] difference 0.45 [0.46] vs 0.35 [0.47], p=0.03), particularly in females irrespective of age. The highest disagreement was recognized in patients with high autoantibody levels; females with RF >3 ULN had DAS28-ESR scores 0.56 points higher. Disparities in these patients impacted on disease activity stratification, as more RF-high females were in DAS28-ESR high disease activity compared with DAS28-CRP (43.1% vs 23%, p<0.001). In contrast, ACPA-positivity did not affect the agreement between the two disease activity indices (Table 1). After 6 months of treatment with csDMARDs discrepancies between the DAS28-ESR and DAS28-CRP in RF-positive patients was reduced but still significant in association with levels >3 ULN (mean difference [95% CI] 0.44 [0.33-0.55]).

Conclusion: In patients with early treatment-naïve RA, the DAS28-ESR and DAS28-CRP are not inter-exchangeable. In particular, the DAS28-ESR may overestimate disease activity when levels of RF are high. These findings suggest that disease assessment for treat-to-target approaches should take into account additional factors such as autoantibody-positivity.

Abstract THU0164 –Table 1. Comparative mean differences (95% CI) between DAS28-ESR and DAS28-CRP stratified for autoantibodies

	whole cohort	female	male	age ≥65 years	age <65 years
overall	0.39 (0.35-0.43)	0.44 (0.47-0.50)	0.26 (0.18-0.34)	0.42 (0.36-0.49)	0.37 (0.31-0.43)
RF-pos	0.45 (0.38-0.53)	0.52 (0.43-0.61)	0.26 (0.13-0.39)	0.47 (0.33-0.61)	0.46 (0.37-0.55)
RF-pos >3 ULN	0.50 (0.40-0.60)	0.56 (0.45-0.68)	0.29 (0.10-0.49)	0.51 (0.30-0.72)	0.51 (0.39-0.62)
ACPA-pos	0.41 (0.34-0.48)	0.49 (0.41-0.57)	0.20 (0.07-0.34)	0.46 (0.32-0.58)	0.40 (0.31-0.49)
ACPA-pos>3 ULN	0.41 (0.33-0.48)	0.47 (0.39-0.56)	0.25 (0.12-0.38)	0.42 (0.27-0.56)	0.41 (0.32-0.50)
ACPA-pos>100 U	0.39 (0.30-0.49)	0.44 (0.33-0.56)	0.27 (0.10-0.44)	0.42 (0.22-0.61)	0.39 (0.28-0.51)

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