Results: Fifty patients were reviewed, thirty eight (76%) were female and twelve (24%) were male with age ranging between 34 - 86 years (median 61.5 years). Switching to MTX injection was done within 2 yrs of diagnosis in 21 (42%) patients, between 2-5 yrs of diagnosis in 11 (22%) patients and more than 5 yrs after diagnosis in 18 (36%) patients. The main reasons of switching were either maximum MTX dose (25mg) or intolerance to oral MTX at any dose.

After switching methotrexate, review at 6 months showed 26 patients (52%) in remission (compared to 6 at baseline) and 3 (6%) patients avoided the need to go on biologic therapy. Five patient commenced on biologic therapy between 3 and 6 months.

Table 1. Disease activity compared at Baseline and at 6 months

Disease Activity	Baseline	At 6 months
Remission <2.6	6	26 (p<0.0001)
Mild (26-3.19)	11	10
Mod (3.2 - 5.09)	25	9 (p<0.01)
Severe (>5.1)	8	5

Conclusion: Switching to SC Methotrexate even in patients with long duration of disease results in significant number of patients achieving remission or lower disease activity (P<0.001). This may obviate the need of biologics therapy

Disclosure of Interests: None declared

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AB0263 THE LEVEL OF 7-HYDROXY METHOTREXATE IN BLOOD CELLS IN PATIENTS WITH RHEUMATOID ARTHRITIS DIRECTLY CORRELATES WITH THE LEVEL OF POLYGLUTAMATES OF METHOTREXATE

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Background: 7-hydroxy Methotrexate (7-hydroxy-MTX) is a phase I metabolite of MTX, which is converted by hepatic aldehyde oxidases. It is known that 7-hydroxy MTX can reduce the effectiveness of methotrexate, which is associated with increased excretion of methotrexate due to a decrease in polyglutamation and binding to enzymes [1].

Objectives: To analyze the level of 7-hydroxy-MTX in peripheral blood cells in order to study the correlation of the level of this metabolite with the level of polyglutamates of methotrexate (MTXPGs).

Methods: The prospective study included 65 patients aged 53±11 years, 50 women, 13 men, diagnosed with RA, according to the ACR/EULAR 2020 criteria, methotrexate (MTX) naiive. The duration of the disease was 7,5[4;24] months. All patients were administrated MTX subcutaneously at a dose of 10-15 mg/m2. The visits were carried out at weeks 0, 4, 12, 24 and 36, at all visits samples were taken for the content of MTXPGs with 1,2,3 and 4 glutamate residues and 7-hydroxy MTX separately in red blood cells mass (RBC) and mononuclear cells (MO). The mononuclear fraction was isolated by layering on verografin-ficoll. All patients received folic acid at a standard dose of 5 mg 24 hours after parenteral MTX administration. Samples were collected no earlier than 36 hours after MTX administration. All patients had normal renal function. Disease activity was assessed using the DAS28 index calculated by C-reactive protein.

Results: The average concentration of 7-hydroxy MTX is shown in Table 1.

Table 1. Level of 7-hydroxy MTX in erythrocytes and mononuclear cells, nmol/L, Median [25; 75 quartiles]

7-hydroxy MTX level in:	4 weeks	12 weeks	24 weeks	36 weeks
RBC	18,5[3,1;61,5]	10,2[3,6;50,8]	10,3[1,7;36,8]	7,2[0,1;25,3]
MO	0,8[0,1;15,2]	4,0[0,1;42,2]	3,5[0,1;8,1]	0,4[0,1;8,9]

The level of 7-hydroxy-MTX directly correlated with the level of MTXPGs 1-4, and summary MTXPG in both RBC and MO. Analysis of pairwise correlations according to Pearson showed that: after 4, 12 and 36 weeks, the level of 7-hydroxy-MTX did not correlate with the value of DAS28. After 24 weeks of therapy, the level of 7-hydroxy-MTX in RBC was inversely correlated with DAS28 of the disease (p=0.043).

Conclusion: The preliminary results indicate a positive correlation between the level of 7-hydroxy-MTX and MTXPGs in RBC and MO. In this regard, the concentration of 7-hydroxy-MTX can be used as a prognostic marker for MTX therapy in the absence of opportunities in clinical centers to measure the entire line of MTXPGs in RBC and MO. Since the data obtained are somewhat at odds with the few literary sources, it is necessary to conduct further research on this fact.

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AB0264 1-YEAR RESULTS OF A NON-INVASIVE AURICULAR VAGUS NERVE STIMULATION DEVICE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Despite the clinical benefits of current pharmacological treatments for rheumatoid arthritis (RA), there remains an unmet need for alternative treatment approaches. Initial results of a 12-week proof-of-concept study of non-invasive, vagus nerve stimulation (VNS) of the auricular branch of the vagus nerve from a wearable device to treat RA showed the device to be well-tolerated with significant reductions in the DAS28-CRP and RA disease severity[1].

Objectives: This analysis presents data from the 9-month extension of the original proof-of-concept study.

Methods: Following the completion of the 12-week proof-of-concept study, responding patients (defined as achieving a reduction in DAS28-CRP of ≥1.2 from baseline and/or achievement of ACR20) were given the option to enroll in a 9-month extension study. Use of the wearable device continued daily for up to 30 minutes as in the first 12 weeks of the study. Alteration of baseline medication and addition of conventional synthetic disease-modifying antirheumatic drugs (DMARDs) and biologic DMARDs were allowed during the extension phase.

Results: 20/27 patients who completed the initial 12-week study met the enrollment criteria for the extension phase; 19 of those patients consented to participate. 4/19 patients (21%) discontinued the extension study due to lack of efficacy (1 patient after 1 month, 2 patients after 3 months, and 1 patient after 6 months in the extension); 15 patients completed the extension phase. 2/15 patients (13%) added biologic therapy to their treatment regimen. Mean DAS28-CRP reduction from baseline to the end of the extension (12 months total) in all patients completing the extension was 2.23 (95% CI: -1.60, -2.86). For patients who did and did not add biologic therapy, mean DAS28-CRP reduction was 2.98 and 2.11, respectively. Individual DAS28-CRP reductions are shown in the figure 1. Mean HAQ-DI reduction from baseline to the end of the extension in all patients was 0.70. 2 non-device related adverse events were reported in the study extension: one related to cornea transplant and one related to dysesthesia. No serious adverse events were reported during the study extension phase.

Conclusion: Benefits from the use of the wearable device were maintained over longer periods of time from the initial 12-week proof-of-concept study, with few safety concerns as no additional side effects were observed.

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