



## P012 - CLINICAL AND ULTRASONOGRAPHIC RESPONSE TO SUBCUTANEOUS METHOTREXATE IN EARLY RHEUMATOID ARTHRITIS. PRELIMINARY RESULTS

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### Resumen

**Objectives:** To describe the clinical and ultrasound response to methotrexate (MTX) during the first 6 months of treatment in early Rheumatoid Arthritis (RA) patients who started subcutaneous methotrexate (MTX-SC) as the first disease-modifying drug (DMARD).

**Methods:** Ongoing prospective cohort of patients with early RA according to ACR-EULAR 2010 criteria, over 18 years and starting MTX-SC by their treating rheumatologist. Patients had a clinical and ultrasonographic evaluation at baseline, 1, 3 and 6 months. We collected demographic data, C-reactive protein [CRP], erythrocyte sedimentation rate [ESR], rheumatoid factor [RF], anti-citrullinated protein antibody [ACPA]), inflammatory activity indexes (DAS28esr and DAS28crp) and EULAR's response to treatment (defined as a delta value of -1.2 in DAS28 scores). The ultrasonographic examination was performed in joints, tendons and bone erosions locations bilaterally. The joints explored were elbows and wrist (radio-carpal and inter-carpal joint) counted as a single joint, 1<sup>st</sup> to 5<sup>th</sup> metacarpophalangeal (MCF), proximal interphalangeal (IPF), knees, tibio-talar and subtalar joints and from the 2<sup>nd</sup> to the 5<sup>th</sup> metatarsophalangeal (MTF) joints. Bone erosions were evaluated in the 2<sup>nd</sup> and 5<sup>th</sup> MCF, styloid and distal ulna and the 5<sup>th</sup> MTF. Synovitis and tenosynovitis were graduated semi-quantitatively from 0 to 3 following OMERACT. Total synovitis was calculated on B mode and Doppler mode.

**Results:** 35 patients were included (mean age 61.2 years, 65.7% women) with a mean of 0.3 ( $\pm$  8) months delay between symptoms and diagnosis. 34 patients (97.1%) started 15 mg per week of MTX-SC. A slightly higher DAS28esr was found in baseline data for one group (Table 1). After the first month, a significant response was achieved in 13 (41%) patients and remission in 11 (35%) (Table 2). 17 patients have 6<sup>th</sup> month data. 11 (64.7%) have achieved EULAR response compared to baseline ( $p = 0.0005$ ) out of which 7 (54.5%) had already reached EULAR response by month 1. No significant differences were found between month 1 and 6 in disease activity; only a slight difference in MTX dose (month1 14.8 vs month 6 17.1,  $p = 0.003$ ). Comparing the ultrasonographic baseline data; 8 patients (22.9%) already had erosions, with a mean of 2.75 erosions per patient (22 of the 280 possible locations). During the follow up the global rating lowered, with no differences in B mode, but with significant differences in Doppler mode at the 6 month mark (Table 3). At the cut of this report, 10 patients (28.5%) had stopped MTX treatment due to lack on response or adverse effects and 8 (22.9%) are waiting 6<sup>th</sup> month evaluation.

Table 1. Baseline patient data

	Month 1 response	No month 1 response	Total	p
Patients (%)	13 (41.9)	18 (58.1)	31	
Women (%)	8 (61.5)	12 (66.67)	20 (64.5)	0.76
MTX Dose mg (SD)	15 ( $\pm$ 0)	14.7 ( $\pm$ 1.2)		0.33
Prednisone Dose mg (SD)	6.8 ( $\pm$ 8)	5.2 ( $\pm$ 5.2)		0.55
DAS28crp (SD)	4.8 ( $\pm$ 1.5)	3.9 ( $\pm$ 1.3)		0.17
DAS28esr (SD)	5.5 ( $\pm$ 1.3)	4.2 ( $\pm$ 1.3)		0.01
ACPA (%)	8 (61.5)	15 (83.3)	23 (74.2)	0.17
RF (%)	10 (76.9)	8 (44.4)	18 (58)	0.07

Table 2. Baseline vs month 1

	Baseline	Month 1	p
EULAR response	0	13 (41)	0.00005
MTX Dose mg (SD)	14.8 ( $\pm$ 0.8)	14.8 ( $\pm$ 1.6)	1
Prednisone Dose mg (SD)	5.9 ( $\pm$ 6.5)	2.9 ( $\pm$ 3)	0.02
DAS28crp (SD)	4.3 ( $\pm$ 1.5)	3.4 ( $\pm$ 1.4)	0.02
DAS28esr (SD)	4.8 ( $\pm$ 1.5)	3.7 ( $\pm$ 1.4)	0.006
Remission (DAS28 < 1.2)	3 (9.6)	11 (35.5)	0.04

Table 3. Ultrasound synovitis global rating

	Baseline	1 month	3 months	6 months
	N = 35	N = 31	N = 25	N = 17
B Mode: Medium (interquartile range)	8 (3.5-12)	8 (3-12.5)	6 (4-11)	5 (2-11)
				p 0.16
Doppler Mode: Medium (interquartile range)	2 (0.5-6)	2 (0-6)	2 (0-6)	0 (0-2)
				p 0.005

**Conclusions:** MTX is usually first treatment of RA. In this cohort, we found that half the patients that responded to treatment had achieved this by month 1. A higher inflammatory profile made response more likely. It seems little difference is found between month 1 and 6 of treatment on clinical data, however ultrasonographic results suggest that at least 6 months are needed for Doppler improvement. Perhaps MTX has a faster effect over joint pain and lowers DAS28 scores, however it requires longer to completely suppress inflammatory activity.