

logistic regression analysis to assess the effects of different characteristics at baseline, including disease duration, on becoming refractory.

Results: By comparing patient characteristics (Table 1), more of the patients, who later will become refractory, are female (94.2% Vs 73.4%, $p > 0.001$), have higher baseline disease activity (SDAI of 25.5 vs 17.7, $p < 0.001$), and longer delay of the initial treatment from symptom onset (3.17 Vs 1.34 years, $p = 0.001$).

The multivariable logistic regression model confirmed that a longer delay of first treatment is independently afflicted with a higher probability of a refractory disease course at a later stage. This model was adjusted for disease activity at baseline and gender ($p < 0.001$, Figure 1). With increasing treatment delay, the chance of a dire disease course rises by approximately 1% every 6 months.

Table 1. Baseline characteristics in refractory and non-refractory patients

Baseline Descriptive	ReRA (n=69)	non-ReRA (n=282)	Sig.
% Female	94.2	73.4	<0.001
% RF +	56.5	62.1	0.398
% ACPA +	60.9	61.0	0.985
Time to Treatment*	3.17 (4.10)	1.34 (2.70)	0.001
SDAI	25.54 (12.24)	17.70 (12.17)	<0.001
CRP†	2.02 (2.30)	1.80 (2.02)	0.435
SJC 28	6.42 (5.35)	4.64 (4.72)	0.009
TJC 28	9.22 (6.98)	4.35 (5.40)	<0.001
EGA‡	37.78 (20.49)	28.77 (21.40)	0.002
PGA‡	55.19 (26.67)	41.42 (26.67)	<0.001

*years; †mg/dl; ‡100mm VAS scale.

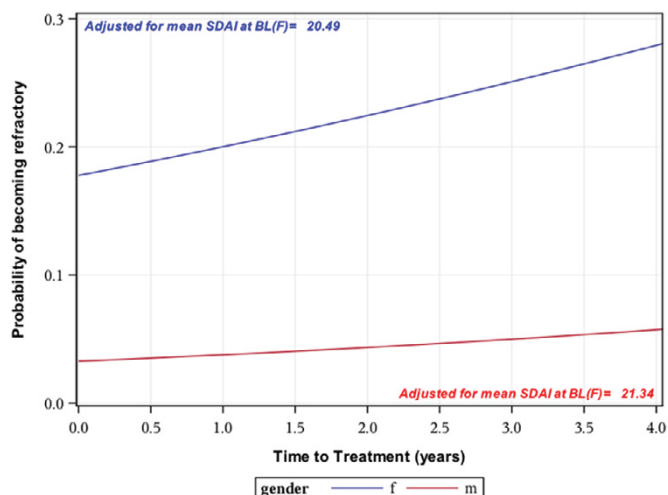


Figure 1: Predicted probabilities for becoming refractory depending on time to first treatment adjusted for baseline disease activity levels and gender.

Conclusions: Our data suggest that delay to initial treatment in RA affects the long-term course of RA. Earlier treatment initiation thus may change the severity of RA.

References:

- [1] van Nies, J.A., et al., What is the evidence for the presence of a therapeutic window of opportunity in rheumatoid arthritis? A systematic literature review. *Ann Rheum Dis*, 2014, 73(5): p. 861–70.

Disclosure of Interest: None declared

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FR10109 SHORT-TERM MONITORING OF SONOGRAPHIC CHANGES INDUCED BY A CORTICOSTEROID INJECTION IN METACARPOPHALANGEAL JOINT OF RHEUMATOID ARTHRITIS PATIENTS: A PILOT STUDY

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Background: Intra-articular corticosteroid injection is a well-established procedure in the daily practice since many decades [1]. High-resolution ultrasound (US), considered as *in vivo* microscopy, has the potential to help to understand how drugs develop their anti-inflammatory properties inside the articular space [2].

Objectives: To provide a very tight sonographic monitoring of the changes in a single metacarpophalangeal (MCP) joint in rheumatoid arthritis (RA) patients after the administration of intra-articular corticosteroid.

Methods: In this study we consecutively enrolled RA patients with active disease (Composite Disease Activity Index - CDAI >10), at least one tender and swollen MCP joint, and without contraindication to intra-articular corticosteroid injection (e.g. poor controlled diabetes). After the clinical evaluation that established the most clinically involved MCP joint to inject, patients underwent an US examination of the joint by an experienced sonographer. Synovitis was scored in grey scale (GS) in terms of joint space enlargement (measured at the level where the

distance between the bone diaphysis and the joint capsule was greater), and power Doppler (PD) signal (scored by a semiquantitative method: 0 = no intra-articular flow, 1 = single vessel signal, 2 = confluent vessels, and 3 = vessel signal in more than 50% of the intra-articular area). After the baseline US assessment (T0), the MCP joints were injected with 20 mg triamcinolone acetonide under sonographic guidance. Sonographic follow-up was performed in five timepoints: two hours (T1) after the injection, four hours (T2), eight hours (T3), 24 hours (T4), and 48 hours after the injection (T5).

Results: Fifteen patients (13 women), with a mean age of 62.5 years, completed the follow-up. The mean CDAI was 28.9, anti-citrullinated protein antibodies were present in 9 patients. At T5, in all the patients was detectable a global reduction of joint space enlargement, of intra-articular PD signal, and of the numerical rating scale (NRS) of pain at the joint injected (Table). However, in majority of the patients (n: 13), the joint space enlargement showed an increase in the T1 and T2 US examinations, and in four patients PD signal, compared to T0, increased within the eight hours after the injection. No major adverse events were registered.

Case ID	Power Doppler grade (0-3)			Joint space enlargement (mm)			NRS pain (0-10)		
	First	Last	Maximum	First	Last	Maximum	First	Last	Maximum
1	2	1	3	3,4	2,4	4,2	3	1	5
2	2	0	2	4,4	3,7	5,7	8	1	8
3	2	0	2	2,1	1,3	3	7	2	7
4	3	1	3	2,1	1,8	2,9	9	0	9
5	3	2	3	4	4	4,9	10	0	10
6	3	1	3	6,5	2,7	6,5	2	1	2
7	2	0	2	3,5	1,2	3,6	6	0	6
8	1	1	3	4,6	3,3	4,6	3	0	3
9	3	0	3	2,5	2,1	3,6	2	0	2
10	2	1	3	4,3	3,9	5,6	7	3	7
11	3	1	3	5,3	3,3	5,7	8	3	8
12	3	1	3	3,3	2,6	3,3	7	3	7
13	2	1	2	2,6	2,3	3	7	2	7
14	3	1	3	3,1	2,2	4	7	2	7
15	2	1	3	4,5	3,7	4,5	7	0	7

Conclusions: A single intra-articular corticosteroid injection, performed under US guidance, is a very fast treatment to reduce synovitis of the injected joint. In the hours next to the injection is common to reveal a rise of joint space enlargement together with that of PD signal score.

References:

- [1] Courtney P, Doherty M. Joint aspiration and injection and synovial fluid analysis. *Best Pract Res Clin Rheumatol* 2013;27:137–69.
 [2] Filippucci E, Iagnocco A, Salaffi F, et al. Power Doppler sonography monitoring of synovial perfusion at the wrist joints in patients with rheumatoid arthritis starting adalimumab treatment. *Ann Rheum Dis* 2006; 65:1433–7.

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FR10110 METHOTREXATE MONOTHERAPY IN REAL LIFE: A DRUG SURVIVAL ANALYSIS. COMPARISON BETWEEN VERY EARLY ARTHRITIS AND EARLY ARTHRITIS COHORTS

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Background: Methotrexate (MTX) is the first line drug suggested in the ACR/EULAR guidelines to treat the rheumatoid arthritis (RA) (1) and spondyloarthritis (SpA). Although MTX efficacy is demonstrated by high levels of evidences, maximum benefit might require interventions even earlier. For this reason, it is suggested to identify the patients (pts) with symptom onset of less than 12 weeks, that is very early arthritis, to obtain better outcomes. Few data are available by the clinical practice on MTX monotherapy (MTXm) survival in very early or early arthritis pts.

Objectives: We aim to evaluate the presence of different outcomes in MTXm drug survival and MTX efficacy between Very Early arthritis (VEA) pts (less than 12 weeks from symptom onset) and Early arthritis (EA) pts (12–52 weeks from symptom onset), and between early RA pts and early SpA pts.

Methods: On 305 pts, we selected 219 pts (30 pts diagnosed as VEA (4,2 (4) weeks from symptom onset) and 155 pts as EA (25,7 (25) wks from symptom onset) in which MTXm could be started. The RA pts were 93 and SpA pts were 126. To assess the MTXm persistency the Kaplan-Meier survival curves analysis was performed and Cox regression analysis was used to assess clinical predictors of MTXm suspension. The results are expressed as mean±standard deviation or median (interquartile range). A $p \leq 0.05$ was set for statistically significant.

Results: No difference in MTXm survival was found between VEA pts 95,5 (36) wks and EA 92,5 (10) wks ($p=0,38$) (Fig.1a). We observed a significant difference in drug survival between early RA pts 63 (16) wks and early SpA pts 112,7 (15,8) wks ($p=0,001$) (Fig.1b). In 55% early RA pts and in 45% early SpA pts the biotechnology drug needs to be added because of disease flare. In the remaining pts a low disease activity ($DAS \leq 3,2$) was observed. No adverse events were recorded in follow-up period. In early RA pts predictors of shorter MTXm survival were younger age at diagnosis ($p=0,004$), lower dose of MTX ($p=0,032$),