

# Subcutaneous Methotrexate Self-Administration in Rheumatoid Arthritis

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**Abstract:** Methotrexate (MTX) is globally considered to be the most important drug in treatment of rheumatoid arthritis (RA). It is known that the bioavailability and therapeutic effect of MTX are growing when administered parenteral.

**Objective.** To evaluate patient's opinion concerning MTX in a form of solution for subcutaneous injection (SC MTX) in RA.

**Materials and methods.** Sixty two SC MTX-naïve patients (50 women and 12 men; age 22 to 74 years ( $51.9 \pm 12.8$ ); RA duration: 1 to 53 months (mean:  $11.8 \pm 10.9$  months)) with active RA (DAS28ESR > 3.2) were included. Weekly dose of SC MTX was  $21.6 \pm 3.4$  mg, median number of injections was 25 [13; 42]. After treatment course patients were asked to complete a questionnaire in order to evaluate their opinion concerning new drug formulation of MTX. Treatment duration at the time of survey was 24 [12; 41] weeks (min, max: 3, 52 weeks).

**The results.** The majority of respondents (81%) performed injections themselves. 33% preferred to administer the drug in the abdomen. Only 1 of 62 respondents considered SC MTX injections as intolerable. Nevertheless this patient has continued her treatment for at least 6 months; and remission according to ACR/EULAR 2011 criteria was achieved. Twenty seven percent of patients reported pain in the site of injection, however none of them considered it to be severe. At the time of survey all patients considered ready-to-use syringes as "comfortable" and "very comfortable". Moderate to severe skin reactions were reported by 17% of patients (11 of 62). The vast majority of patients were willing to continue long-term treatment with new drug formulation. The injection technique was considered as correct (according to the label) in 32% of patients.

Sixteen percent of respondents removed air bubble from the syringe prior to injection, while syringes are prepared so that the solution can be considered fully inserted only when the piston is introduced "till stop". Only a third of the patients maintained the recommended distance (3 cm) between the sites of injection, 35% were aware of this recommendation, but did not take it further, 31% were not aware of this recommendation, and in 3% the distance between two consecutive injection sites was less than 3 cm.

73% of respondents reported the improvement of life quality with SC MTX usage; 19% of respondents couldn't answer this question, 6% - didn't report improvement of life quality. Only 10% of respondents were willing to switch to MTX tablets.

**Conclusion.** Based on the results of this study in patients who received SC MTX for at least 6 months, SC MTX is considered convenient, and most of the respondents were ready to use it for a long time. However the self-administration technique was wrong in 100% of patients\$ this could be the reason for adverse reactions or inadequate effectiveness of the treatment.

**Key words:** Rheumatoid Arthritis, Subcutaneous Methotrexate, the opinion of patients