Pediatric Rheumatology



Poster presentation



# Time to treatment as an important factor for the response to methotrexate in juvenile idiopathic arthritis

HM Albers*[1], JAM Wessels[1], RJH van der Straaten[1], DMC Brinkman[1], LWA Suijlekom-Smit[2], SSM Kamphuis[2], HJ Girschick[3], C Wouters[4], MW Schilham[1], S le Cessie[1], TWJ Huizinga[1], R ten Cate[1] and HJ Guchelaar[1]

Address: [1]Leiden University Medical Center, Leiden, Netherlands, [2]Erasmus Medical Center-Sophia Children's Hospital, Rotterdam, Netherlands, [3]University of Wuerzburg, Wuerzburg, Germany and [4]University Hospital Gasthuisberg, Leuven, Belgium

* Corresponding author

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## Objective

Methotrexate (MTX) is the most commonly used disease modifying antirheumatic drug (DMARD) in juvenile idiopathic arthritis (JIA), especially in polyarticular arthritis. At present no reliable prediction of individual response to MTX can be made. Identification of factors that influence the response to MTX could be helpful in realizing the optimal treatment for each individual patient.

## Materials and methods

A cohort of 118 JIA patients that were treated with MTX was studied retrospectively. Clinical parameters and genotypic data of 6 single nucleotide polymorphisms (SNP) in 5 genes related to the mechanism of action of MTX were compared between MTX responders and non-responders using a multivariate regression analysis.

## Results

The time-to-start-MTX (time from diagnosis to start MTX treatment), the starting dosage and the baseline physician's global assessment were significantly related to the response to MTX at 6 months after initiation in a multivariate regression analysis. No effect of the starting dose on the response to MTX was found when correcting for different treatment strategies in different subtypes. The baseline physician's global assessment was directly related to the time-to-start-MTX. Subgroup analyses showed that time-to-start-MTX was consistently significantly associated with response to MTX. A non significant trend towards an increased probability to respond was seen when the time-to-start-MTX was ≤1 years.

## Conclusion

In children with JIA, the time-to-start-MTX appears to be an important factor for the MTX response. In this study we show that an early MTX treatment (≤1 year) is associated with an increased efficacy of MTX on short term.