For patients with early RA, methotrexate (MTX) is recommended as first-line treatment and in non-responders both the addition of conventional non-biologic disease modifying anti-rheumatic drug therapy (triple DMARD therapy) and of biological (anti-TNF) therapy are supported by data. Identification of patients with a higher likelihood of responding at one or the other of these options would lead to more personalised medicine and an increased effectiveness of therapy.

Methods
To evaluate the multi-biomarker disease activity (MBDA) score after MTX monotherapy in MTX incomplete responders, as a predictor of response to subsequent triple versus biological therapies.

Objectives:
1) To evaluate the multi-biomarker disease activity (MBDA) score after MTX monotherapy, in MTX incomplete responders, as a predictor of response to subsequent triple versus biological therapies.
2) Categories of MBDA score at Month 3 (DAS28>3.2) N=157
3) Categories for CRP at Month 3 based on ROC curve analysis:
   - Low (CRP≤32)
   - High (CRP>32)
4) Categories of ESR score at Month 3 based on ROC curve analysis:
   - Lower (ESR≤25.5 mm/h)
   - Higher (ESR>25.5mm/h)
5) Response of patients at 12 months by DAS28 (≤3.2) and EULAR criteria was assessed for triple and biological arms.
6) Homogeneity of the odds ratios (TT vs. biological) between the two MBDA categories was assessed by Breslow-Day test.

Background

Results

Conclusions

- Patients with lower MBDA score were more likely to respond to triple therapy (achieve low DAS28 or good EULAR response) whereas patients with higher MBDA score were more likely to respond to anti-TNF therapy.
- The MBDA score at 3 months compared with CRP, ESR and MBDA showed better prediction of response at year 1 (either according to DAS28 or EULAR response criteria) to both conventional triple and anti-TNF therapies.
- Among patients with early RA who do not achieve low disease activity on 3 months MTX monotherapy, the MBDA score at 3 months may have potential to help guide subsequent therapy.