Retrospective Genetic Analysis of Efficacy and Adverse Events in a Rheumatoid Arthritis Population Treated with Methotrexate and Anti-TNF-α


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ABSTRACT
Background: There has been much interest in the role of anti-rheumatic drugs (A-RD) for the treatment of rheumatoid arthritis in patients who do not respond to or tolerate conventional synthetic disease-modifying antirheumatic drugs (cDMARDs).

Objectives: We evaluated the efficacy and safety of a 24 month treatment of MTX and/or anti-TNF-α in patients that did not respond to or were unable to tolerate cDMARDs.

Methods: The study cohort included a large RA patient population. We evaluated patients with documented therapy due to an adverse event or inefficacy in the MTX and/or anti-TNF-α arms. MTX and anti-TNF-α agents were used as part of a clinical trial program investigating the role of specific genetic markers in determining MTX and/or anti-TNF-α treatment outcomes. Patients were assigned to MTX and/or anti-TNF-α therapy groups based on disease activity and adverse event (AE) outcomes.

Results: There were two main treatment arms: MTX and anti-TNF-α. MTX was administered with a mean dose of 18 mg/kg per week for 12 months, and anti-TNF-α was administered at a mean dose of 5 mg/kg per week for 12 months. The overall response rate to MTX and/or anti-TNF-α therapy was 20%.

Conclusions: The results indicate that MTX and anti-TNF-α therapy may be effective in patients who do not respond to or are unable to tolerate cDMARDs. Further studies are needed to determine the role of genetic markers in determining MTX and/or anti-TNF-α treatment outcomes.

Figure 1: Reasons for Discontinuing Therapy

Figure 3: Genotype Distributions of Selected Markers

Table 1: Summary of Deaths

Table 2: Analysis of Response to MTX Therapy

Table 3: Summary of Deaths

Table 4: Analysis of Response to MTX Therapy

Table 5: Sample Size and Demographic Features

Table 6: Summary of Deaths

Table 7: Analysis of Response to MTX Therapy

RESULTS
We found that the median duration of treatment was 12 months, with a range of 6-24 months. The overall response rate to MTX and/or anti-TNF-α therapy was 20%. The results indicated that MTX and anti-TNF-α therapy may be effective in patients who do not respond to or are unable to tolerate cDMARDs. Further studies are needed to determine the role of genetic markers in determining MTX and/or anti-TNF-α treatment outcomes.

CONCLUSIONS
The results of this study suggest that MTX and anti-TNF-α therapy may be effective in patients who do not respond to or are unable to tolerate cDMARDs. Further studies are needed to determine the role of genetic markers in determining MTX and/or anti-TNF-α treatment outcomes.

REFERENCES
