Efficacy and Tolerability of Subcutaneous Methotrexate for Inflammatory Arthritis: A Retrospective Observational Cohort Study

Gunn JL[1], Panopolou A [1], Steuer A [1]

Rheumatology Department, Wexham Park Hospital, Slough. UK

Frimley Health NHS
NHS Foundation Trust

BACKGROUND

Methotrexate (MTX) monotherapy or MTX in combination with other conventional and biologic disease-modifying antirheumatic drugs (DMARDs) is standard treatment for patients with inflammatory arthritis. A significant number of patients discontinue therapy with oral (PO) MTX because of intolerance or a lack of efficacy. Standard practice at our institution involves switching such patients to subcutaneous (SC) MTX prior to the addition of other agents. This study was designed to assess the therapeutic outcomes of this approach in the outpatient setting.

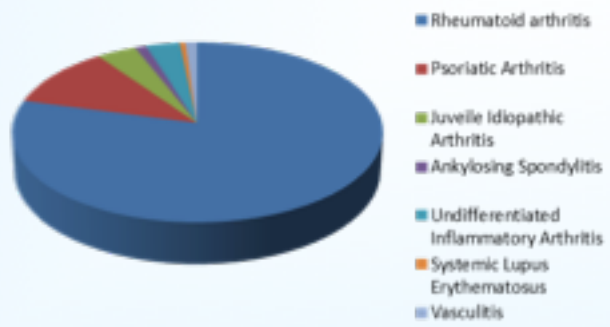
METHODS

We retrospectively reviewed electronic medical records within our patient cohort from 2001 to the present, and included patients who switched from PO to SC MTX. Records were analysed for baseline demographics, reasons for switching to SC MTX, doses of PO and SC MTX at the time of the switch, duration of SC MTX use, reasons for discontinuation of SC MTX (if applicable), and whether the addition of biologic agents was required.

RESULTS

- Records of 240 patients who switched to SC MTX were examined; 58 patients were excluded due to incomplete data.
- 182 patients included: 68% female and the average age at starting SC MTX was 52.5yrs (range 17-82 years)

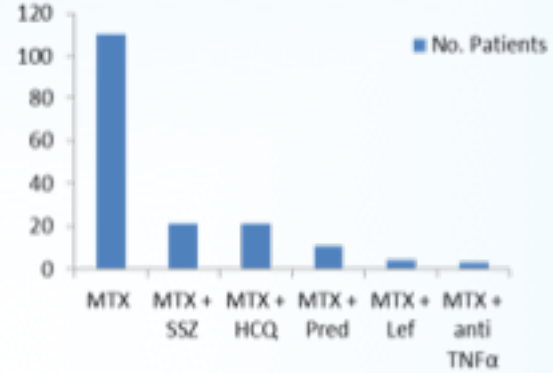
Figure 1: Underlying diagnosis of included patients



References 1. Braun J, Kastner P et al. Comparison of the clinical efficacy and safety of subcutaneous versus oral administration of methotrexate in patients with active rheumatoid arthritis. Arthritis Rheum. 3008. 58 (1): 73–81; **2.** Bharadwaj A, Agrawal S et al. Use of parenteral methotrexate significantly reduces the need for biological therapy. Rheumatology 2008. 47: 222–232; **3.** Fitzoatrick R, Scott DGI et al. Cost minimisation analysis of subcutaneous methotrexate versus biologic therapy for the treatment of patients with rheumatoid arthritis who have had an insufficient response or intolerance to oral methotrexate. Clin Rheumatol 2013. 32(11)1605–1612

- Reasons for switching from PO to SC MTX included: intolerance (n=55), inefficacy (n=118) and unknown (n=9)

Figure 2: DMARD therapy at the time of switching to SC MTX



- At the time of switching patients were taking an average dose of 20mg/ week PO MTX and were switched to an average dose of 15mg/ week SC MTX (range for both 5-25mg/ week).
- 73% patients remain on SC MTX to date. 49 patients discontinued SC MTX due to intolerance (n=26), adverse drug reaction (n=10), inefficacy (n=6) , disease remission (n=2) or undocumented reasons (n=5).
- 39% of those who discontinued SC MTX required the addition of biologic therapy compared with 28% of those who continued SC MTX.
- 65% of those who switched to SC MTX because of intolerance were able to continue this drug for an average duration of 46 months (range 2-144 months.)
- To date 40 to 45% of those who switched to SC MTX because of intolerance or inefficacy respectively did not require the addition of another DMARD or biologic agent.

CONCLUSION

This evidence strongly supports the use of SC MTX as a tolerable and efficacious alternative after failure of PO MTX. After the switch to SC MTX, 65% of patients who were intolerant of PO MTX continued with MTX, either as monotherapy or in combination with other DMARDs or biologic agents. The finding of improved tolerability of SC compared to PO MTX is in contrast to the results of previous studies which have demonstrated equivalent tolerability.[1] Furthermore, patients who continued with SC MTX were less likely to require biologic agents, supporting previous evidence, with resultant associated cost savings that are of wider economic importance.[2,3] Further evaluation of the place of SC MTX in the treatment regimes of patients with inflammatory arthritis is warranted.

DISCLOSURE

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