

Methotrexate: patient knowledge of key safety issues

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Background

Methotrexate is widely used in rheumatology as a once-weekly dosage. Errors in prescribing and administration, related to dosage interval and tablet strength, have led to accidental overdosing which can be fatal.¹ Patient knowledge of treatment can help prevent harm from errors. The National Patient Safety Agency issued a safety alert for oral methotrexate in July 2004² recommending action to reduce harm.

Objectives

To determine patients' knowledge about their methotrexate dose, adverse effects, and interactions.

To determine the extent of use of information leaflets and patient-held monitoring booklets.

Methods

Adult rheumatology outpatients taking methotrexate were interviewed using a structured pre-piloted questionnaire while attending clinics at a university teaching hospital in January and February 2005. The hospital serves an inner city community with the highest levels of deprivation in the region. The unit routinely provides written and verbal information about methotrexate before treatment starts.

Questions were asked about dose, route, patterns of drug usage, monitoring, interactions and adverse effects. The study had local research ethics committee approval.

Results

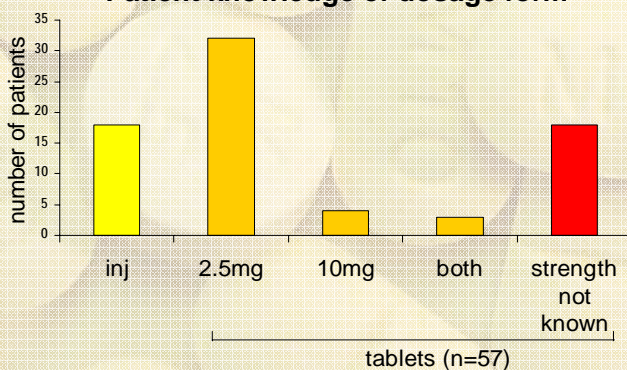
75 rheumatology patients (44 female, 31 male), mean age 56 years (range 18-83), were interviewed.

Dosage form

Of those taking oral methotrexate, 14 (25%) were unable to state their dose in milligrams, 18 (32%) did not know the strength of their tablets, while 12 (21%) did not know both the strength of tablets and the prescribed dose in milligrams. Fourteen patients (25%) only knew their dose as number of tablets and one incorrectly thought their tablets were 5mg.

All patients knew the number of tablets they took and were aware of the weekly dosing schedule.

Patient knowledge of dosage form



Information

Forty-four (59%) patients had a monitoring booklet. Updated monitoring booklets were carried by 22 patients.

While 66 (88%) patients said they had been given information leaflets, 11 (17%) of these patients admitted they had never read the information.

Adverse effects and interactions

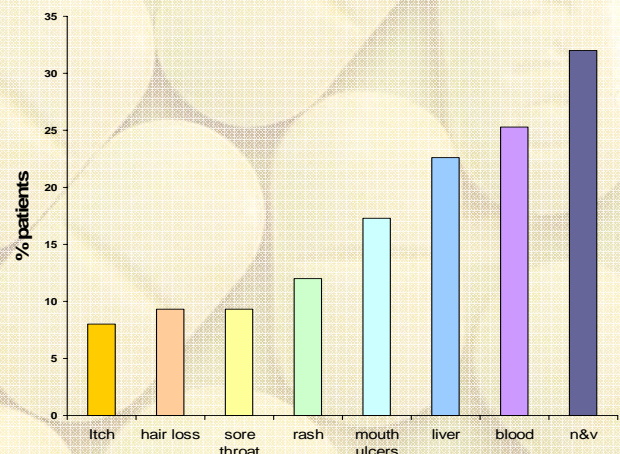
Nineteen (25%) of the 75 patients were unable to name any adverse effects of methotrexate; 72 patients (96%) were unaware of shortness of breath, with 56 (75%) unaware of the blood disorders caused by methotrexate.

Only 7 patients knew 4 or more adverse effects and 22 patients were only able to name one adverse effect.

Thirty-three (44%) patients were not aware of any drugs which should not be taken with methotrexate; 64 (85%) were unaware of the interaction with aspirin. Only 18 (24%) patients were aware that alcohol should be avoided.

Twenty-one (28%) patients used over-the-counter medicines or herbal remedies, including potentially interacting drugs such as aspirin and ibuprofen.

Most frequently cited adverse effects



Incidents

Two patients split their oral dose with one taking 5mg each on Tues, Thurs and Sat; the other took 10mg on two consecutive days. One patient did not take folic acid. One patient had not been monitored for more than 6 months.

Conclusions

A significant number of patients had limited knowledge of their methotrexate dosage putting them at risk of errors. Knowledge of key adverse effects which indicate serious toxicity was deficient, as was knowledge of important interactions with other medications and alcohol. This study underlines the necessity of improving communication methods and reinforcing key safety messages.

References

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2. Patient Safety Alert 03: Reducing the harm caused by oral methotrexate. National Patient Safety Agency. July 2004. Available from www.npsa.nhs.uk

Conflicts of interest

This study formed the research component of Chandler's MPharm degree and no funding was received. Cox, Higham, Chandler and Situnayake have no conflicts of interest to declare.