Safety Alert - Once Weekly Oral Methotrexate

Issue

Methotrexate is an antimetabolite, primarily used orally **once weekly** in the treatment of rheumatoid arthritis, psoriasis and Crohn's disease. Methotrexate is a high-risk drug, i.e. serious patient harm can occur as a result of errors involving incorrect frequency (daily rather once weekly), incorrect strength tablets, incorrect strength tablets, or from an adverse drug reaction. Care must be taken with methotrexate use at all stages of medication use, including at transitions of care.
(*Note this alert does not cover the use of methotrexate in haematology or oncology.*)

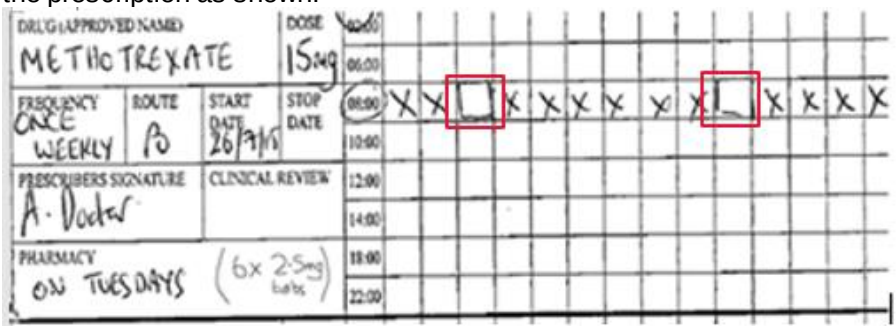
Evidence of Harm

Numerous adverse events have occurred worldwide as a result of preventable errors. Some examples include:

- A hospital in-patient received 15mg methotrexate orally daily instead of the intended weekly dose for 8 days, resulting in death from bronchial pneumonia as a consequence of bone marrow suppression caused by methotrexate toxicity. (Ireland)(1)
- A patient was prescribed, dispensed and administered methotrexate 10mg orally daily, instead of the intended once weekly dose in community and in hospital. The patient died. (UK)(2)
- A GP prescribed a daily dose of oral methotrexate for a flare-up of psoriasis. The pharmacist queried the dose but was reassured it was correct and despite concerns dispensed the prescription. Patient subsequently died of complications of methotrexate toxicity. (Australia)(3)

How to Reduce the Risks in hospitals

- Keep only one strength of oral methotrexate (2.5mg) in stock.
- Prescribe, dispense and administer oral methotrexate **ONCE WEEKLY** (usual dose range 7.5mg – 25mg orally once weekly), specifying the day of the week.
- Specify the number of tablets ("10mg, i.e. 4 x 2.5mg tablets") to be taken per dose.
- **Ensure that the patient understands their therapy, including dose and frequency, when and where monitoring will be carried out, the signs and symptoms of toxicity and what to do if they occur. Provide written information to patients.**
- Folic acid 5mg once weekly orally is indicated to reduce mucositis and gastrointestinal side effects. It should be administered on a different day of the week to methotrexate(4).
- Be aware of methotrexate contra-indications and cautions, symptoms of adverse reactions and toxicity, the appropriate monitoring to carry out and potential interactions with other drugs, e.g. NSAIDs as they can reduce renal function and thus decrease the clearance of methotrexate(5).
- Write the drug name in full: never abbreviate.
- In hospitals, the Drug Chart should clearly indicate which day methotrexate is due. Cross out the remaining days on the prescription as shown:



- Configure electronic prescribing and administration systems for safety e.g. to prevent daily prescribing and administration, appropriate use of warnings, optimise use of barcode scanning to prevent strength mis-selection.
- Specify full directions on the label where possible.
- Where feasible, all patients should receive education but if not possible, patients should be prioritised for education/ counselling prior to discharge, particularly where the methotrexate is new or there has been a dose change in hospital.
- Highlight the importance of dispensing the correct strength and once weekly dosing on dispensing systems and in the methotrexate storage area.
- Remove methotrexate from ward stock, dispense one dose only at a time.

Further information

Product information on www.hpra.ie, www.medicines.ie or other reliable references, e.g. BNF(6).
Methotrexate guidance available at: www.thepsi.ie(7); www.ismp.org(8); http://www.ipnsm.hscni.net/methotrexate-oral-shared-care-guideline/ (9)

References:

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