IRISH MEDICATION SAFETY NETWORK

Safety Alert – Oral Methotrexate

Issue

Methotrexate is an antimetabolite which is primarily used in the treatment of rheumatoid arthritis, psoriasis and Crohn's disease as a **once weekly** oral dose. Methotrexate is a high-risk drug, i.e. serious patient harm can result from adverse drug reactions and errors in its use. Care must be taken with its use in hospitals, the community and 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. Some examples include:

- Hospital in-patient received 15mg methotrexate orally daily instead of the intended weekly for 8 days, resulting in death from bronchial pneumonia as a consequence of bone marrow suppression caused by methotrexate toxicity. (Ireland)
- Patient prescribed, dispensed and administered methotrexate 10mg orally daily instead of the intended once weekly dose in community and in hospital. The patient died. (UK)
- A patient who usually took 15mg (6 x 2.5mg tablets) orally weekly was prescribed and dispensed 10mg tablets. The patient did not realise and took two weekly doses of 60mg (6 x 10mg). She required hospital admission and recovered. (Australia).

How to Reduce the Risk

Doctors, Nurses, Pharmacists, Pharmaceutical Technicians

- Prescribe, dispense and administer oral methotrexate **ONCE WEEKLY** (usual dose range 7.5mg – 20mg 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 should they occur.**
- Folic acid 5mg once weekly orally can reduce mucositis and gastrointestinal side effects. It should be administered on a different day of the week to methotrexate.
- Ensure that you are aware of contra-indications and cautions, symptoms of adverse reactions and toxicity associated with methotrexate, the appropriate monitoring to carry out and potential interactions with other drugs, e.g. NSAIDs.

Pharmacists and Pharmaceutical Technicians

- Keep one strength of oral methotrexate (2.5mg) only in stock.
- Specify full directions on the label and counsel patient on each dispensing as above.
- Put reminders re once weekly dosing and ensuring the correct strength is dispensed on the computer system and in the methotrexate storage area.
- Hospital: Remove methotrexate from ward stock, dispense one dose only at a time.
- Community: Dispense a maximum of one month's supply at a time.

Further information

Product information on www.imb.ie , www.medicines.ie or other reliable references, e.g. BNF.
Methotrexate safety notices may be found on www.npsa.nhs.uk.
Access local protocols, guidelines and patient information where available.

About the IMSN
The Irish Medication Safety Network (IMSN) is an independent group of pharmacists and other specialists working in the acute sector, whose principal aim is to improve patient safety with regard to the use of medicines through collaboration, shared learning and action. The IMSN can be contacted via irishmedsafety@gmail.com

Publication Date: May 2010