



Methotrexate information sheet

At KEMH, methotrexate is the drug used for medical management of ectopic pregnancy. Ectopic pregnancy results when an early pregnancy becomes implanted anywhere outside the cavity of the uterus. It is a potentially serious condition affecting about 1 in 100 pregnancies.

Most ectopic pregnancies develop in the fallopian tubes; however some occur in the cervix, caesarean section scar, ovary or even abdominal cavity.¹

Methotrexate provides an alternative to surgery. Methotrexate is suitable for women with absent or minimal pain, however will require careful follow-up, which involves blood tests to monitor the level of pregnancy hormone in blood, after the first week, and thereafter once or twice weekly until the tests are negative.²

Methotrexate may also be used in the management of molar pregnancy and gestational Trophoblastic disease (GTD).

Gestational trophoblast Disease (GTD) is a rare group of placental related disorders derived from a pregnancy. The incidence of molar pregnancies is 1:200-1000 pregnancies. GTD includes hydatidiform mole either complete or partial, to choriocarcinoma, and because of their secretion of human chorionic gonadotrophin (hCG), they can be accurately monitored.

Methotrexate is a cytotoxic (chemotherapy) drug that is used to stop the growth of rapidly dividing cells (that may be found in developing placental and embryonic tissue). Specifically, methotrexate is a folic acid antagonist (anti-metabolite); which interferes with the DNA synthesis and cell replication. Actively proliferating tissue and malignant cells are highly sensitive to the action of this drug.

Methotrexate inclusion criteria

Please refer to the Clinical Practice Guideline (CPG): Pregnancy care: First trimester complications page 41- 46

<https://healthpoint.hdwa.health.wa.gov.au/policies/Policies/NMAHS/WNHS/WNHS.OG.PregnancyFirstTrimester.pdf>

Administration

Only health care professionals who have attained competency as per institutional guidelines in the safe administration, handling and waste management of antineoplastic drugs should perform these procedures.

All staff administering Methotrexate must comply with the safe handling and use of cytotoxic medications with the regulating authority of the Department of Health Operational Circular OD 0651/16 Clinical and Related Waste Management Policy, NMHS Management of Chemicals and Hazardous Substances Policy and the Australian/New Zealand Standard 3816:1998 Management of Clinical and Related Wastes.

<https://healthpoint.hdwa.health.wa.gov.au/policies/Policies/NMAHS/WNHS/WNHS.PMM.CytotoxicAgents.pdf>

The dose of methotrexate used to treat ectopic pregnancy is relatively low, safe and well tolerated.

Methotrexate may be administered as an outpatient treatment, and patients do not have to be admitted to a ward after methotrexate administration for observation. (Refer to CPG page: 42)

Methotrexate is provided by pharmacy as patient and dose specific prefilled syringes.

Intramuscular methotrexate administration into the buttock or lateral thigh is the preferred site and route.

Methotrexate and Folinic acid treatment regime

- Refer to eviQ: <https://www.eviq.org.au/medical-oncology/gynaecological/gestational-trophoblastic-disease/668-gestational-trophoblastic-disease-low-risk-met>

In some cases folinic acid (Leucovorin Calcium) is given to bypass the metabolic block induced by methotrexate and thus rescue the normal cells from toxicity.⁴

Dose regime

- Refer to CPG page 43:
<https://healthpoint.hdwa.health.wa.gov.au/policies/Policies/NMAHS/WNHS/WNHS.ORG.PregnancyFirstTrimester.pdf>

In this commonly used protocol, Day 1 is the day of methotrexate treatment.

- On Days 4 and 7, a serum hCG concentration is checked and if the decrease in hCG is less than 15 percent between Days 4 and 7, a second dose of methotrexate is administered.
- A 15% decrease in serum hCG between day 4 and day 7 is a very good indicator of the likely success of methotrexate.

The empty syringe or needle should be placed in separate purple Sharps container labelled "Cytotoxic waste for special incineration".

Common side effects

Vaginal bleeding
Nausea
Fatigue or light-headedness
Cramping
Abdominal pain
Diarrhoea

Less common side effects

Skin sensitivity to sunlight
Inflammation of the membrane covering the eye
Sore mouth and throat
Temporary hair loss
Severe low blood cell counts
Inflammation of the lung (pneumonia)
Alterations in smell and taste





References

1. Use of methotrexate to treat pregnancy of unknown location and ectopic pregnancy. North Bristol NHS Trust. This edition published February 2020.
2. Condous.G.Ectopic pregnancy: Challenging accepted management strategies. Australian and New Zealand Journal of Obstetrics and Gynaecology. 2009; 49: 346-51
3. Bhattacharya S, McLernon DJ, Lee AJ, Bhattacharya S. Reproductive outcomes following ectopic pregnancy: register-based retrospective cohort study. PLoS Medicine. 2012; 9 (6):e1001243-e. Available from:

<https://login.kelibresources.health.wa.gov.au/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=2011593145&site=ehost-live>

4. Stika C. Methotrexate: The Pharmacy Behind Medical Treatment for Ectopic Pregnancy: A Comparison of Regimes> Clinical Obstetrics & Gynaecology. 2012;55 (2): 433-9

This document can be made available in alternative formats on request.

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