醫院管理局
HOSPITAL AUTHORITY

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Medication Safety Bulletin

The Medication Safety Bulletin (MSB) is published by the Medication Safety Committee HAHO (MSC) biannually (May and Nov) as an educational publication to share issues related to medication safety. Please refer to the HA Risk Alert (HARA) for sharing of medication incident cases reported in HA.

Inside this issue:

Invitation from MSC Chairman: Medication Safety Forum 2019

On behalf of **Dr. K S Tang, Chairman of MSC**, we would like to invite you to participate in this year's Medication Safety Forum held on **9 December 2019 (Monday)** at **Lecture Theatre, HA Building**. With the theme **"Innovation and Technology – How to make drug use safer?"**, let us discuss how the use of innovative technology could make impact on medication safety.

We would be glad to share and learn with each other on that day to promote medication safety together!

Dr. K S Tang (DKCH/FYKH/MMRC HCE) has succeeded Dr. Nelson Wat (CMC HCE) as chairman of MSC since September 2019. We would like to express our sincere gratitude to Dr Wat's leadership and unfailing support in enhancing medication safety in HA.

Valproate - Risk minimisation measures in Hospital Authority

Valproate, a medicine which could be used as treatment for epilepsy and bipolar disorder, is associated with a significant risk of birth defects and developmental disorders in children born to women who take valproate during pregnancy.

Taking valproate whilst pregnant can harm the child in two ways:

1. **Birth defects**, including:
- Spina bifida (脊柱裂) - where the bones of the spine do not develop properly
- Face and skull malformations - including 'cleft lip' (兔唇) and 'cleft palate' (裂顎)
- Malformations of the limbs, heart, kidney, urinary tract and sexual organs

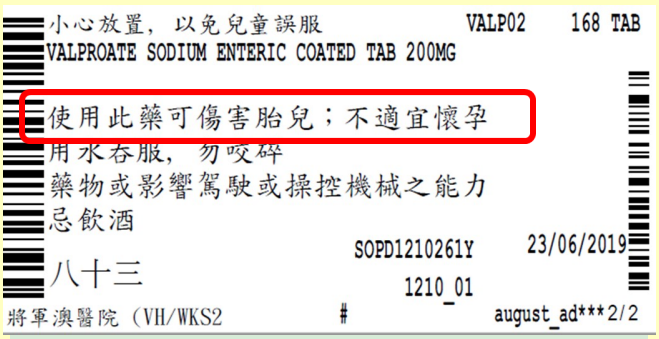
2. **Development and learning problems**, including:
- Delay in learning to walk and talk
- Intelligence lower than other children of the same age
- Poor speech and language skills
- Memory problems

Valproate - Risk minimisation measures in Hospital Authority (Continued)

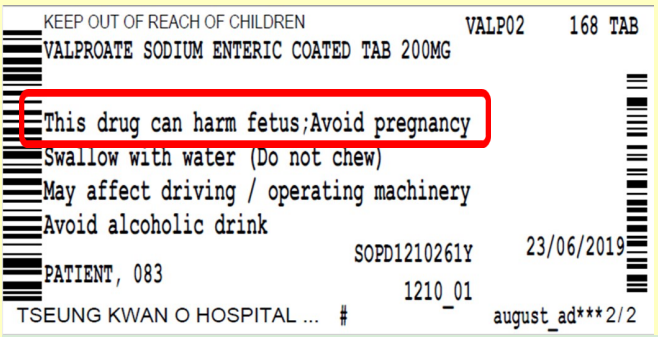
In June 2019, the Department of Health (DH) required the Certificate holders of valproate medicines registered in Hong Kong to implement risk minimisation measures in relation to the high teratogenic potential and developmental disorders in women of childbearing potential.

After consultation and deliberation among stakeholders, the Drug Management Committee (DMC) has endorsed implementing the following measures in HA:

(1) **The precautionary statements on dispensing labels** of valproate medicines have been updated.

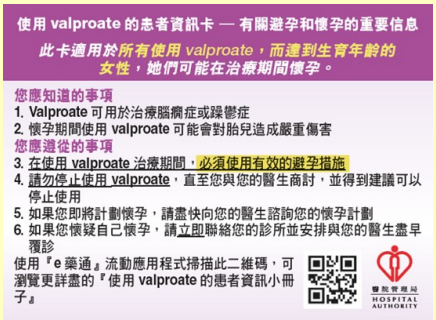


(Chinese) 使用此藥可傷害胎兒；不適宜懷孕

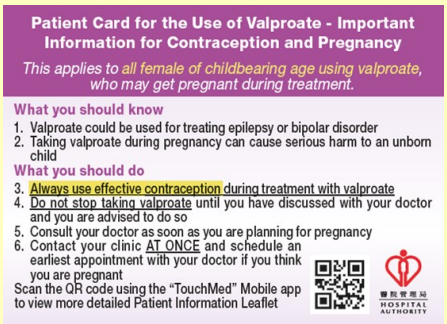


(English) This drug can harm fetus;Avoid pregnancy

(2) **A patient alert label** would be affixed on drug bags of valproate medicines being dispensed in HA. The alert label highlights key information concerning contraception and pregnancy. Detailed patient information could be accessed by using the HA TouchMed app (『e藥通』流動應用程式) to scan the QR code on the patient alert label or the drug label.



Patient alert labels in Chinese or English



在使用valproate治療期間，必須使用有效的避孕措施

Always use effective contraception during treatment with valproate

(3) **The detailed patient information of valproate medicines** has been developed after consulting HA stakeholders. with reference to the education materials published by the Medicines and Healthcare products Regulatory Agency (MHRA, health authority in the UK) and the certificate holder of the current HA supplier of valproate preparations. **A patient information leaflet** has been compiled to facilitate clinicians and healthcare professionals to convey the teratogenic risks of valproate to patients, and to provide guidance regarding the use of valproate to women of childbearing potential. Soft copy has been uploaded to intranet (*hadf.home* and *cpo.home*) and internet (*HA Drug Formulary* - *www.ha.org.hk/hadf* and *HA Smart Patient*) websites in HA. Please consult healthcare professionals or local pharmacies in HA for a hard copy or further enquiry.

Oral methotrexate - Best Practice to prevent inadvertent daily dosing for non-oncologic conditions

Methotrexate is a folate antimetabolite used in the treatment of neoplastic diseases and non-oncological conditions such as psoriasis, rheumatoid arthritis, and other conditions. When used to treat disorders such as psoriasis and rheumatoid arthritis, low doses are administered **weekly by the oral route**. However, for some cancer types, a more frequent or higher dose is used. At high doses, oral methotrexate is known to be associated with serious and sometimes fatal blood dyscrasias, but similar adverse outcomes have been associated with the use of low-dose oral methotrexate when given daily.

Prescribing, transcribing, dispensing, and administration errors (including self-administration by patients) have led to daily instead of weekly dosing of oral methotrexate for non-oncological indications. Fatal dosing errors with oral methotrexate have been reported worldwide since early 1996, occurring both during hospitalisation and after discharge.

The International Medication Safety Network (IMSN) has published a document titled **Global Targeted Medication Safety Best Practices** to identify, inspire, and mobilise widespread international improvement in error prevention. The goal of best practice involving methotrexate is to prevent errors involving inadvertent daily dosing instead of weekly dosing of oral methotrexate for non-oncologic conditions in the ambulatory and inpatient setting.

Highlights of Best Practice Description suggested by IMSN

1. ***Prescribe, dispense, and administer oral methotrexate ONCE WEEKLY and specify the day of the week.***
2. ***Enter a weekly dosage regimen for oral methotrexate as a default into electronic systems to prevent the accidental prescribing or dispensing of the medication for more than once-a-week administration.***
3. ***Require an electronic hard stop verification of an appropriate oncologic indication for all daily oral methotrexate orders.***
4. ***In the hospital setting, remove methotrexate from nursing units/ward stock and "after hours" cupboards.***
5. ***Dispense only the needed doses in safety packaging such as a dose pack, patient pack, or calendar pack.***
6. ***Provide specific patient and/or family/caregiver education for all oral methotrexate orders or new prescriptions.***
7. ***Educate clinical staff on the safe and appropriate use of methotrexate.***

Regarding the recommendations from IMSN, MSC would consult relevant stakeholders in HA and suggest potential risk minimisation measures for further discussion.

IMSN reference:
https://www.ismp.org/news/imsn-introduces-new-global-targeted-medication-safety-best-practices

Sharing by Kowloon West Cluster:

How to use standard regimens to facilitate correct prescribing of insulin infusions?

There are multiple regimens of insulin infusions for different indications.

To facilitate correct prescribing, the following standard regimens have been newly created in IPMOE:

Different indications	Different dose, diluent, concentration & infusion rate
1. **Hyperkalemia** *(DI drip)*	INJECTION: 11/Apr - - **Insulin Neutral Human** (ACTRAPID HM) injection 100U/mL **intermittent IV infusion: 8 unit(s) in 50 mL Dextrose 50%** over 30 Minutes STAT for 1 DOSE
2. **Peri-operative management of DM patients** *(DKI drip)*	INFUSION: 11/Apr - - **Insulin Neutral Human** (ACTRAPID HM) injection 100U/mL **continuous IV infusion: 6 unit(s) to 10 unit(s) in 500 mL Potassium Chloride 10mmol in D5 500ml** 100 mL per Hour Give Follow DKI protocol
3. **Hyperglycemia** *(Insulin drip)*	INFUSION: 11/Apr - - **Insulin Neutral Human** (ACTRAPID HM) injection 100U/mL **continuous IV infusion: 50 unit(s) in 50 mL Sodium Chloride 0.9%** 1 mL per Hour

How to prescribe the above standard regimens in IPMOE ?