MONOGRAPH

Ertapenem Monograph - Paediatric

Scope (Staff):	Medical, Pharmacy, Nursing
Scope (Area):	All Clinical Areas

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this DISCLAIMER

QUICKLINKS

Dosage/Dosage Adjustments | Administration | Compatibility | Monitoring

DRUG CLASS

Carbapenem antibiotic[1]

INDICATIONS AND RESTRICTIONS

IV: Restricted (red) Antibiotic

ChAMP approval is required prior to prescription.

- Ertapenem is active against many resistant enteric Gram-negative rods, anaerobes and many Gram-positive organisms. It has poor activity against *Pseudomonas aeruginosa, Enterococcus* and *Acinetobacter* species and poor central nervous system (CNS) penetration.[1, 2]
- Ertapenem is inactive against Methicillin Resistant Staphylococcus aureus (MRSA), Vancomycin resistant Enterococci (VRE), *Enterococcus faecium*, Mycoplasma species, Chlamydia species and *Stenotrophomonas maltophilia.*[1, 2]

CONTRAINDICATIONS

- Hypersensitivity to ertapenem, high risk allergy to carbapenems or any component of the formulation.[1, 3, 4]

PRECAUTIONS

- Ertapenem may be prescribed in selected patients with high risk allergy to another Beta-lactam sub-class (e.g. some penicillins and cephalosporins) in discussion with immunology.
- In patients with a previous low risk reaction to ertapenem or another carbapenem (delayed rash [>1hr after initial exposure] without mucosal or systemic involvement) the risk of subsequent reaction is low. Re-challenge may be acceptable in discussion with immunology.(1)
- Each gram of ertapenem contains approximately 137mg (6mmol) of sodium.(1, 5, 6)
- Avoid use in combination with sodium valproate when possible due to a significant reduction in the concentration of sodium valproate.(1, 4)
- Ertepenem should be used with caution in patients with CNS disorders as there is an increased risk of seizures.(4, 6)

FORMULATIONS

Listed below are products available at PCH, other formulations may be available, check with pharmacy if required:

- 1gram powder for injection

Imprest location: Formulary One

DOSAGE & DOSAGE ADJUSTMENTS

Neonates and infants under 3 months of age:

Not routinely used in neonates or infants < 3 months old; contact infectious diseases or clinical microbiology for advice.

IV/IM:

Usual dose:

≥ 3 months to <12 years: 15mg/kg/dose (to a maximum of 500mg) twice daily.(1, 4, 6, 7)

≥ 12 years: 1 gram once daily.(4, 7)

Dosing in Overweight and Obese Children: Dose based on measured body weight.(8)

Renal impairment:

eGFR calculator

CrCl ≥ 30mL/minute: normal dosing(1, 4, 6)

CrCl <30mL/minute: ≥ 12 years of age: 500mg once daily.(3, 4)

CrCl <30mL/minute: < 12 years of age: no data available, consider an alternative agent.(4)

Hepatic impairment:

No dosage adjustment is required for patients with hepatic impairment.(4)

RECONSTITUTION & ADMINISTRATION

IV infusion:

- Reconstitute each 1gram vial with 10mL of water for injection or sodium chloride 0.9% to make a solution of approximately 100mg/mL.[5, 9]
- Shake well to dissolve. Dilute further to a concentration of 20mg/mL or less and infuse over 30 minutes.[5, 9].

IM injection:

Ertapenem may be given by intramuscular injection.

Reconstitute each 1gram vial with 3.2mL of lidocaine (lignocaine) 1% (10mg/mL) to make an approximate concentration of 250mg/mL.[5]

Note: Preparations with lidocaine (lignocaine) 1% (10mg/mL) as diluent must NEVER be given intravenously.[5, 9]

Doses up to 1gram may be injected into a large muscle mass. Refer to the Intramuscular Injections Guideline (internal link) for advice.[4, 5, 9]

COMPATIBILITY *(LIST IS NOT EXHAUSTIVE)*

Compatible fluids:

Water for injection[5]

Sodium chloride 0.9%[5]

Compatible at Y-site:

Compatibilities of IV drugs must be checked when two or more drugs are given concurrently.

INCOMPATIBLE drugs:

Ertapenem is **INCOMPATIBLE** with glucose 5%, Hartmann's, Mannitol, Ringer's and sodium bicarbonate - IV lines should be flushed with sodium chloride 0.9% prior to administration.[5]

MONITORING

Renal, hepatic and haematological function should be monitored weekly with prolonged therapy (i.e. longer than 7 days). In patients with a history of seizures, neurological assessment should be considered.[1, 4, 9]

ADVERSE EFFECTS

Common: nausea, vomiting, diarrhoea, headache, injection site reactions (e.g. phlebitis).[1, 6]

Infrequent: itch, rash, hot flushes, melaena. *Clostridioides difficile*-associated diarrhoea, fever, fatigue, pain, hypotension, constipation, confusion, dizziness, dyspnoea, erythema, taste disturbance, altered liver function tests (LFT's), neutropenia.[1, 6]

Rare: seizures, hallucinations, aggression, delirium, anaphylaxis, tooth discolouration. [1, 6, 9]

STORAGE

- Store vial below 25°C.[5, 10]

INTERACTIONS

This medication may interact with other medications; consult PCH approved references (e.g. Clinical Pharmacology), a clinical pharmacist or PCH Medicines Information Service on extension 63546 for more information.

Please note: The information contained in this guideline is to assist with the preparation and administration of **erapenem**. Any variations to the doses recommended should be clarified with the prescriber prior to administration

Related CAHS internal policies, procedures and guidelines

Antimicrobial Stewardship Policy

ChAMP Empiric Guidelines and Monographs

KEMH Neonatal Medication Protocols

References

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