MONOGRAPH

Atovaquone with Proguanil 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

Antimalarial.[1]

INDICATIONS AND RESTRICTIONS

- Together, atovaquone and proguanil have a synergistic effect.[1] They are used in the prophylaxis of malaria resistant to chloroquine or mefloquine and in the treatment of uncomplicated malaria.[1, 2]

Oral: Monitored (orange) antiprotozoal

- If the use is consistent with a standard approved indication, this must be communicated to ChAMP by documenting that indication on all prescriptions (inpatient and outpatient).
- The ChAMP team will review if ongoing therapy is required and/or if the order does not meet ChAMP Standard Indications
- If use is not for a standard approved indication, phone approval must be obtained from ChAMP before prescribing.

CONTRAINDICATIONS

- Hypersensitivity to atovaquone, proguanil or any component of the formulation.[2, 3]
- Atovaquone with proguanil should not be used for malaria prophylaxis in patients with severe renal impairment (creatinine clearance <30 mL/minute) due to the increased risk of blood dyscrasias.[1-3]

PRECAUTIONS

- Atovaquone with proguanil should not be used for the treatment of malaria in patients who took these agents as prophylaxis.[4]
- Caution should be taken in patients who are vomiting or who have diarrhoea, as there will be reduced absorption of the atovaquone component and the risk of treatment failure. A trial of an anti-emetic may be beneficial (although metoclopramide should be avoided as it reduces the absorption of atovaquone).(5)
- Patients with features of severe malaria should be treated using IV artesunate.[4]

FORMULATIONS

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

- Atovaquone 250 mg and Proguanil 100 mg tablets (Malarone®)
- Atovaquone 62.5 mg and Proguanil 25 mg tablets (Malarone Junior®).

Imprest location: Formulary One

DOSAGE & DOSAGE ADJUSTMENTS

- Malaria in pregnant women is considered a medical emergency. Contact Infectious Diseases or Clinical Microbiology Consultant on call for advice.
- Atovaquone with proguanil should not be used for the treatment of malaria in patients who took these agents as prophylaxis.[4]
- One Malarone Junior® (62.5 mg/25 mg) tablet is equivalent to one-quarter of a Malarone® (250 mg/100 mg) tablet.[1]

Oral:

Neonates and infants less than 5 kg:

- Not routinely used in neonates or infants less than 5kg; contact Infectious Diseases or Clinical Microbiology for advice.

Children ≥ 5 kg

Treatment dose (uncomplicated malaria):

- Treatment doses should be taken as single dose once daily for 3 consecutive days.[1, 4, 6]

Body weight	Dose[1, 5, 6]	Duration
< 5 kg	Contact Infectious Diseases Physician for advice	
≥ 5 to < 8 kg	2 tablets of Malarone Junior® (62.5 mg/25 mg) once daily	3 days
≥ 8 to < 10 kg	3 tablets of Malarone Junior® (62.5 mg/25 mg) once daily	3 days
≥ 10 to < 20 kg	1 tablet of Malarone® (250 mg/100 mg) once daily	3 days
≥ 20 to < 30 kg	2 tablets of Malarone® (250 mg/100 mg) once daily	3 days
≥ 30 to < 40 kg	3 tablets of Malarone® (250 mg/100 mg) once daily	3 days
≥ 40 kg	4 tablets of Malarone® (250 mg/100 mg) once daily	3 days
Treatment must be given in conjunction with or followed by a course of primaquine for *P. vivax* or *P. ovale* malaria.[1, 4]		

Malaria prophylaxis dose

- Start treatment 1-2 days before entering an endemic area and continue prophylaxis for 7 days after leaving the area.[1, 4, 6]

Body weight	Dose[1, 4, 5]
< 5 kg	Contact Infectious Diseases Physician for advice
≥ 5 to < 8 kg	Half a tablet of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 8 to < 10 kg	Three quarters of a tablet of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 10 to < 20 kg	1 tablet of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 20 to < 30 kg	2 tablets of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 30 to < 40 kg	3 tablets of Malarone Junior® (62.5 mg/25 mg) once daily
≥ 40kg	1 tablet of Malarone® (250 mg/100 mg) once daily

Renal impairment:

- eGFR calculator
- Dosage adjustment may be required in cases of impaired renal function (with creatinine clearance of less than 30 mL/minute). Renal impairment increases the risk of blood dyscrasias.[6]
- CrCl > 30mL/minute: normal dosing
- CrCl ≤ 30mL/minute: should not be used in prophylaxis. May be used with caution for the treatment of Malaria. Avoid unless potential benefits outweigh the risks.[2, 3]

Hepatic impairment:

- No dosage adjustment is required for mild to moderate hepatic impairment. No data available for use in severe impairment.[2, 3, 6]

RECONSTITUTION & ADMINISTRATION

- Atovaquone with proguanil should be taken with a high fat meal or a glass of full cream milk to increase absorption. If necessary, the tablets can be crushed and mixed with a small amount of milk to aid in administration.[1-4, 6]
- If the patient vomits within 1 hour of administration of the dose, an additional dose is required. Contact the Infectious Diseases team for further information.[1, 3, 6]

MONITORING

- In patients undergoing treatment courses of atovaquone with proguanil, renal function (including serum sodium), hepatic function, full blood count and serum amylase should be monitored routinely.[3, 4]
- Malaria microscopy is recommended 7 and 28 days after completion of therapy.[4]
- Patients should be instructed to seek medical attention if they develop a fever or are ill up to 1 year after returning from an endemic area.

ADVERSE EFFECTS

Common: nausea, vomiting, diarrhoea, headache, anaemia, neutropenia, anorexia, dizziness, abdominal pain, cough, sleep disorders, depression, fever, rash.[1, 4]

Infrequent: reversible alopecia, urticaria, mouth ulceration, palpitations, hyponatraemia, anxiety, blood disorders[1, 4]

Rare: stomatitis, hepatitis, cholestasis, allergic reactions (including angioedema and anaphylaxis), seizures, psychosis, pancytopenia (in patients with severe renal impairment), tachycardia, hallucinations, vasculitis, photosensitivity, Stevens-Johnson syndrome.[1, 4]

STORAGE

- Tablets should be stored below 30˚C.[6]

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 **atovaquone with proguanil**. 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
Emergency Department Guidelines - Malaria

References

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File Path:	W:\Paediatrics\PMH\ChAMP\Monographs\FINALISED\00 Current version 00		
Document Owner:	Head of Department – Infectious Diseases		
Reviewer / Team:	Children's Antimicrobial Management Program Pharmacist		
Date First Issued:	October 2013	**Last Reviewed:**	January 2023
Amendment Dates:	November 2016, January 2023	**Next Review Date:**	January 2026
Approved by:	Drugs and Therapeutics Committee	**Date:**	February 2023
Endorsed by:	Chair, Drugs and Therapeutics Committee	**Date:**	February 2023
Standards Applicable:	NSQHS Standards:  NSMHS: N/A Child Safe Standards: N/A		

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