# Chlorproguanil/dapsone for the treatment of non-severe Plasmodium falciparum malaria in Kenya: a pilot study.

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## Abstract

Chlorocycloguanil, the active metabolite of chlorproguanil, was synergistic in vitro with dapsone against 2 culture-adapted Plasmodium falciparum isolates from Kenya; maximal synergy occurred at lower concentrations that it did with pyrimethamine and sulfadoxine. 48 children with asymptomatic P. falciparum infections were treated with chlorproguanil (at a target dose of 1.2 mg/kg) and dapsone (target dose of 1.2 or 2.4 mg/kg); all were free of parasitaemia by day 7. The following numbers had recurrences on days 14, 21, and 28, respectively: 1 of 48, 7 of 47, and 7 of 40. All 39 children treated with pyrimethamine (target dose 1.2 mg/kg) and sulfadoxine (target dose 24 mg/kg) were cleared of infection, while the following had recurrences on days 14, 21, and 28: 1 of 39, 2 of 38, and 2 of 36. The rate of decrease in parasitaemia was the same in the 2 groups, and there was no change in haematocrit or haemoglobin during the follow-up. The rate of recurrence in the children receiving chlorporguanil/dapsone was higher, probably because these drugs have a much shorter clearance time than pyrimethamine/sulfadoxine. Chlorproguanil/dapsone is an effective combination for treating P. falciparum malaria and deserves further study.

- A simple urine test for sulfonamides
  Almeida-Filho
  Bulletin of the World Health Organisation 1983

- A method for testing for synergy with any number of agents.
  Berenbaum MC
  J Infect Dis, (2):122-130 1978
  MED: 627734

- Malaria in the Australian army in South Vietnam. Successful use of a proguanil-dapsone combination for chemoprophylaxis of chloroquine-resistant falciparum malaria

  Black

  Medical Journal of Australia 1973

---

- Maloprim and agranulocytosis.

  Bruce-Chwatt LJ, Hutchinson DB

  Lancet, (8365-66):1487-1488 1983

  MED: 6140569

---

- Metabolism of the sulfones.

  Bushby SR

  Int J Lepr Other Mycobact Dis, (4):572-579 1967

  MED: 5626305

---

- Evaluation of CI-564, A 1:1 mixture of cycloguanil pamoate (CI-501) and 4,4'-diacetylaminodiphenylsulfone (CI-556), against multiresistant falciparum malarias.

  Chin W, Contacos PG, Coatney GR, Jeter MH, Alpert E

  Am J Trop Med Hyg, (5):580-584 1967

  MED: 4861322

---

- Synergistic antimalarial activity of pyrimethamine and sulfadoxine against Plasmodium falciparum in vitro.

  Chulay JD, Watkins WM, Sixsmith DG

  Am J Trop Med Hyg, (3):325-330 1984

  MED: 6375404

---

- Quantitative assessment of antimalarial activity in vitro by a semiautomated microdilution technique.

  Desjardins RE, Canfield CJ, Haynes JD, Chulay JD

  Antimicrob Agents Chemother, (6):710-718 1979

  MED: 394674

---

- Single-dose therapy of Falciparum malaria using pyrimethamine in combination with diformyldapsone or sulfadoxine.

  Doberstyn EB, Hall AP, Vetvutanapibul K, Sonkon P

Am J Trop Med Hyg, (1):14-19 1976

MED: 769572

---

- Rapid assessment of health status and preventive-medicine needs of newly arrived Kampuchean refugees, Sa Kaeo, Thailand.

  Glass RI, Cates W Jr, Nieburg P, Davis C, Russbach R, Nothdurft H, Peel S, Turnbull R

  Lancet, (8173):868-872 1980

  MED: 6103221

---

- Stevens-Johnson syndrome after mass prophylaxis with sulfadoxine for cholera in Mozambique.

  Hernborg A

  Lancet, (8463):1072-1073 1985

  MED: 2865554

---

- Resistance of Plasmodium falciparum to sulfadoxine-pyrimethamine (Fansidar) in a refugee camp in Thailand

  Hurwitz

  Lancet 1981

---

- Falciparum malaria acquired in the area of the Thai-Khmer border resistant to treatment with Fansidar.

  Johnson DE, Roendej P, Williams RG

  Am J Trop Med Hyg, (5):907-912 1982

  MED: 6751111

---

- The eosin colour test of Dill and Glazko: a simple field test to detect chloroquine in urine.

  Lelijveld J, Kortmann H

  Bull World Health Organ, (3):477-479 1970

  MED: 5310213

---

- The suppression of malarial parasitaemia by pyrimethamine in combination with dapsone or sulphormethoxine.

  Lucas AO, Hendrickse RG, Okubadejo OA, Richards WH, Neal RA, Kofie BA

  Trans R Soc Trop Med Hyg, (2):216-229 1969

  MED: 4893737

- *Title not supplied*

  Martindale

  1977

- Severe cutaneous reactions among American travelers using pyrimethamine-sulfadoxine (Fansidar) for malaria prophylaxis.

  Miller KD, Lobel HO, Satriale RF, Kuritsky JN, Stern R, Campbell CC

  Am J Trop Med Hyg, (3):451-458 1986

  MED: 2939735

- Susceptibility of Plasmodium falciparum to pyrimethamine and sulfadoxine/pyrimethamine in Kisumu, Kenya.

  Nguyen-Dinh P, Spencer HC, Chemangey-Masaba S, Churchill FC

  Lancet, (8276):823-825 1982

  MED: 6122056

- Chlorproguanil chemoprophylaxis for falciparum malaria in Kenya.

  O'Neil AB, Law B, Haworth SJ, Tuersley LV

  Lancet, (8532):572 1987

  MED: 2881124

- Prevention of drug resistance in rodent malaria by the use of drug mixtures.

  Peters W

  Bull World Health Organ, (4):379-383 1974

  MED: 4619060

- An evaluation of five regimens for the outpatient therapy of falciparum malaria in Thailand 1980-81.

  Pinichpongse S, Doberstyn EB, Cullen JR, Yisunsri L, Thongsombun Y, Thimasarn K

  Bull World Health Organ, (6):907-912 1982

  MED: 6761005

- Activities of respository preparations of cycloguanil pamoate and 4,4'-diacetyldiaminodiphenylsulfone, alone and in combination, against infections with Plasmodium cynomolgi in rhesus monkeys.

Schmidt LH, Rossan RN

Antimicrob Agents Chemother, (5):611-642 1984

MED: 6393864

---

- Comparison of diaminodiphenylsulphonepyrimethamine and sulfadoxine-pyrimethamine combinations in the treatment of falciparum malaria in Thailand.

  Segal HE, Chinvanthananond P, Laixuthai B, Pearlman EJ, Hall AP, Phintuyothin P, Na-Nakorn A, Castaneda BF

  Trans R Soc Trop Med Hyg, (1):139-142 1975

  MED: 1096374

---

- In vitro antimalarial activity of tetrahydrofolate dehydrogenase inhibitors.

  Sixsmith DG, Watkins WM, Chulay JD, Spencer HC

  Am J Trop Med Hyg, (5):772-776 1984

  MED: 6385738

---

- A new in vitro test for pyrimethamine/sulfadoxine susceptibility of Plasmodium falciparum and its correlation with in vivo resistance in Kenya.

  Spencer HC, Watkins WM, Sixsmith DG, Koech DK, Chulay JD

  Bull World Health Organ, (4):615-621 1984

  MED: 6386209

---

- Response of Plasmodium falciparum to dihydrofolate reductase inhibitors in Malindi, Kenya.

  Spencer HC, Watkins WW, Sixsmith DG, Koech DK

  Trans R Soc Trop Med Hyg, (2):201-203 1986

  MED: 3538522

---

- Single-dose treatment of falciparum malaria with mefloquine: field studies with different doses in semi-immune adults and children in Burma.

  Tin F, Hlaing N, Lasserre R

  Bull World Health Organ, (6):913-917 1982

  MED: 6218927

---

- A preliminary pharmacokinetic study of the antimalarial drugs, proguanil and chlorproguanil.

Watkins WM, Chulay JD, Sixsmith DG, Spencer HC, Howells RE

J Pharm Pharmacol, (4):261-265 1987

MED: 2884288

---

- In vitro susceptibility of Plasmodium falciparum isolates from Jilore, Kenya, to antimalarial drugs.

  Watkins WM, Howells RE, Brandling-Bennett AD, Koech DK

  Am J Trop Med Hyg, (3):445-451 1987

  MED: 3318515

---

- In vitro inhibition of granulopoiesis by 4-amino-4'-hydroxylaminodiphenyl sulfone.

  Weetman RM, Boxer LA, Brown MP, Mantich NM, Baehner RL

  Br J Haematol, (3):361-370 1980

  MED: 7426431

---

- Clinical pharmacokinetics of antimalarial drugs.

  White NJ

  Clin Pharmacokinet, (3):187-215 1985

  MED: 3893840

---

- Combination treatment for falciparum prophylaxis.

  White NJ

  Lancet, (8534):680-681 1987

  MED: 2882095