Primaquine

Class:
Primaquine is an 8-aminoquinoline.

Antiparasitic Activity:
Primaquine has a broad spectrum of activity against all stages of the plasmodium development in humans but uniquely induce radical cure (anti-relapse therapy) of \textit{P. vivax} and \textit{P. ovale} malaria. It has activity against \textit{Pneumocystis (carinii) jiroveci}.

Mechanism of Action:
Most of the antimalarial activity of primaquine is probably derived from hydroxylated metabolites which may become oxidised and initiate radical formation and reactive oxygen species.

Pharmacokinetics:
Primaquine is rapidly and nearly completely absorbed after oral administration. Its elimination half-life is 5-7 hours. Primaquine is extensively metabolized and less than 2\% of the dose is excreted unaltered into the urine.

Dosage:
Treatment:
The classical dosage regimen is once daily 15 mg for 14 days. However there are significant geographic differences in susceptibility to primaquine with respect to strains of \textit{P. vivax}. Thus, dose recommendations are usually determined by the geographic source of the infection (Table 1).

Prophylaxis:
A daily dose of 0.5 mg/kg primaquine, taken with breakfast and extended for one week after leaving the endemic area offers good prophylaxis against \textit{P. vivax} and \textit{P. falciparum}.

Pregnancy:
Primaquine is contraindicated in pregnancy. The fetus is relatively deficient in G6PD.

Adverse Effects:
Primaquine can induce haemolysis but not all individuals are equally sensitive to this effect. A red cell defect, caused by deficiency of glucose-6-phosphate dehydrogenase (G6PD) is responsible for haemolysis in primaquine sensitive individuals. Primaquine may induce methaemoglobinemia irrespective of the G6PD status of the patient.