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17/mhs02/001

300 Level

Chemotherapy of malarial parasite

Classify the antimalarial agents and state the mechanism of action of each class of drug listed.

1. Hypnozoiticidal and gametocytocidal

 Drug: Primaquine

 Mechanism of action: Primaquine interferes with the electron transport in the parasite during respiratory process.

2. Blood schizontocides

 Drug: Chloroquine

 Mechanism of action: Chloroquine accumulates in the acidic food vacuole of intraerytrocytic trophozoites and thereby prevents hemoglobin degradation.

 Drug: Curcumin

 Mechanism of action: Curcumin inhibits the activity of enzymes and lipid peroxides.

 Drug: Lumefantrine

 Mechanism of action: Lumefantrine is believed to inhibit nucleic and formation of beta – hematin by forming a complex with hemin.

3. Gametocytocidal

 Drug: Artemisinin dihydroartemisinin

 Mechanism of action: Involves the heme-mediated decomposition of the peroxide bridge to produce carbon – centered free radicals.

4. Gametocytodal

 Drug: Artemether

 Mechanism of action: It acts against erythrocytic stages of p. falciparum and inhibit nucleic acid and protein synthesis.