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A review of Antimalarial agent

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ABSTRACT

Malaria is infectious diseases caused by parasites. Antimalarial drugs are the mainly cause p.vivax, p.falciparum, p.ovule it is important disease in world. In this review can discuss life cycle of malaria then pharmacokinetics, sign and symptom, mechanism of action

Keywords— Malaria, Life cycle malaria, Death rate 2002-2007

1. INTRODUCTION

bloodsucking infections motionless one of the major causes of death in the third world countries. Bloodsucking protozoan belonging to genus Plasmodium causes malaria, one of the most severe humid diseases. The four identified species of the parasite steady for inflicting human malaria are Plasmodium [1]

Table 1: Differences between various types of Parasites that cause malaria [2]

Table of differences between the various types of parasites that cause malaria				
Plasmodium type	Type that causes malaria	Endemic area	Febrile seizures period	Involvement and severity
Falciparum	tropical malaria	In all endemic areas	Irregular Crisis	Very serious It can cause death if not treated quickly and effectively.
Vivax	tertian malaria	South America and Asia	Every 2 days	Grave, but with a delayed onset.
malariae	quartan malaria	South America and Asia	Every 3 days	Moderate, less frequently.
Ovale	tertian malaria	Africa	Every 2 days	Moderate, less frequently.
Knowlesi	It is mistaken with quartan malaria	Malaysia, Thailand and Cambodia	Every 24 hours	It can cause death if not treated quickly and effectively.

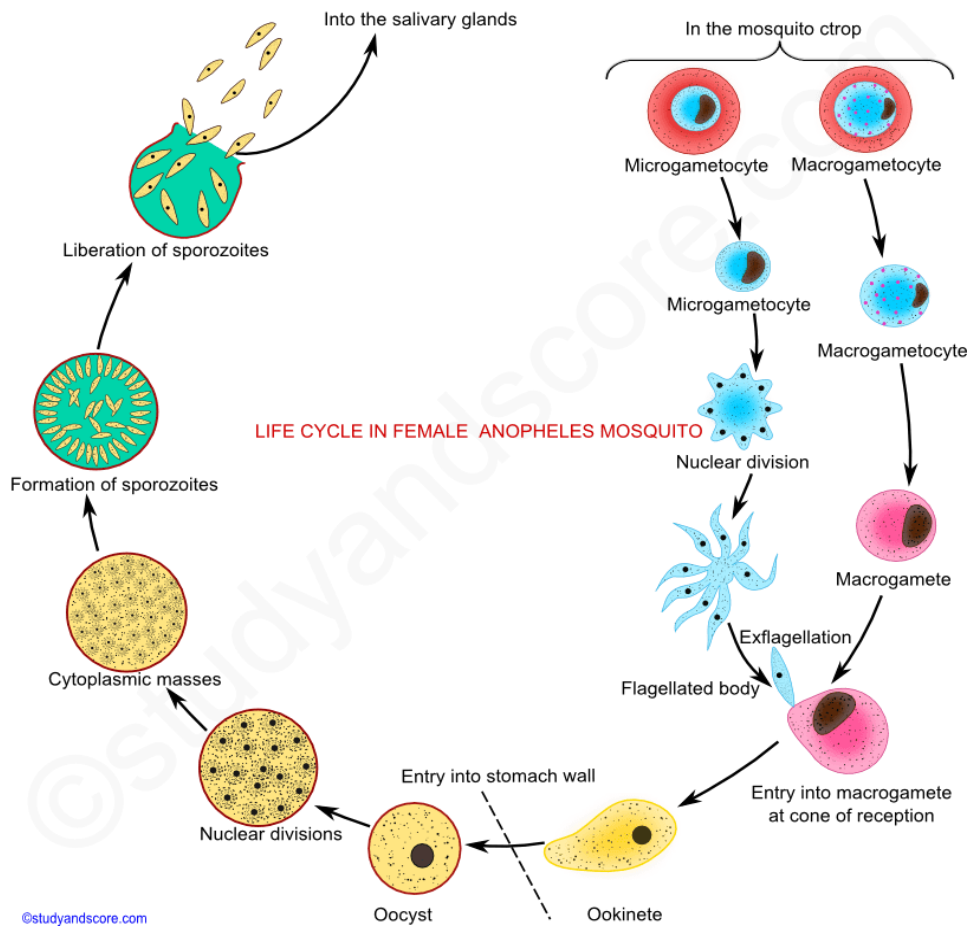
2. LIFE CYCLE

Four major types of plasmodia infect to men

- P.vivax
- P.falciparum
- P.ovule
- P.malaria

The individual is infected by malarial parasites through the bite of a female anopheles' mosquito. The disease can also transmitted blood from mother to fetus across the placenta. After the sporozoites develop various stage:

- Pre-erythrocytic stage
- Erythrocytic stage
- Development of sexual forms



[3]

(a) pre-erythrocytic stage

- The duration of this phase 5-7 days for p.falciparum
- 8 days for p.vivax
- This phase releases thousand merozoites into the blood stream

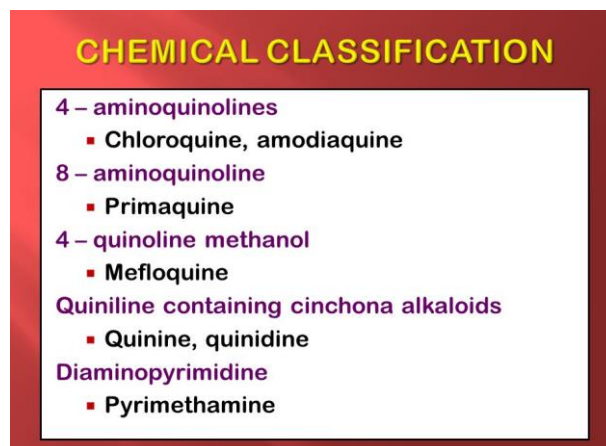
(b) Erythrocytic stage

- In this phase multiplication of schizonts
- The release of merozoites is associated through paroxysm of fever with inflexibility

(c) Development of sexual forms

- Mosquito Bite sucked from blood mature into gametes in the mosquito gut
- Female gamate combine with male gamate to formation of zygote
- Zygote invades the gut wall to form oocyst [4]

Classificaton according to chemical nature



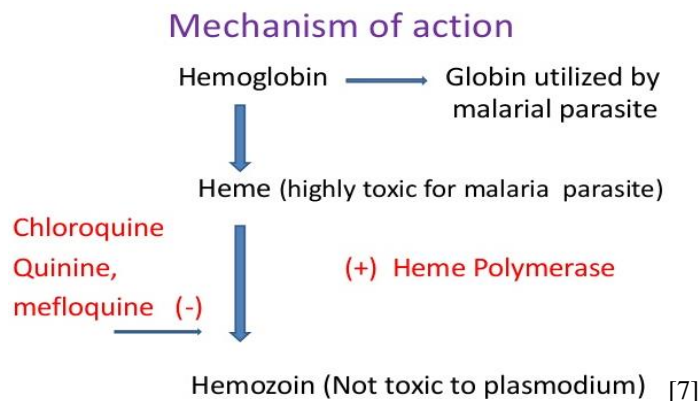
[5]

3. SIGNS AND SYMPTOMS OF MALARIA

- (a) Fever
- (b) Chills
- (c) Headaches and diaphoresis

- (d) Dizziness
- (e) Malaise
- (f) Myalgia
- (g) Abdominal pain
- (h) Nausea,
- (i) Vomiting,
- (j) Mild diarrhea,
- (k) Dry cough [6]

4. MECHANISM OF ACTION OF DRUG



Pharmacokinetics of drugs

antimalarial drugs, particularly those which are hydrophobic and lipophilic, are poorly absorbed after oral or intramuscular administration blood concentrations is inversely proportional to bioavailability,[8]

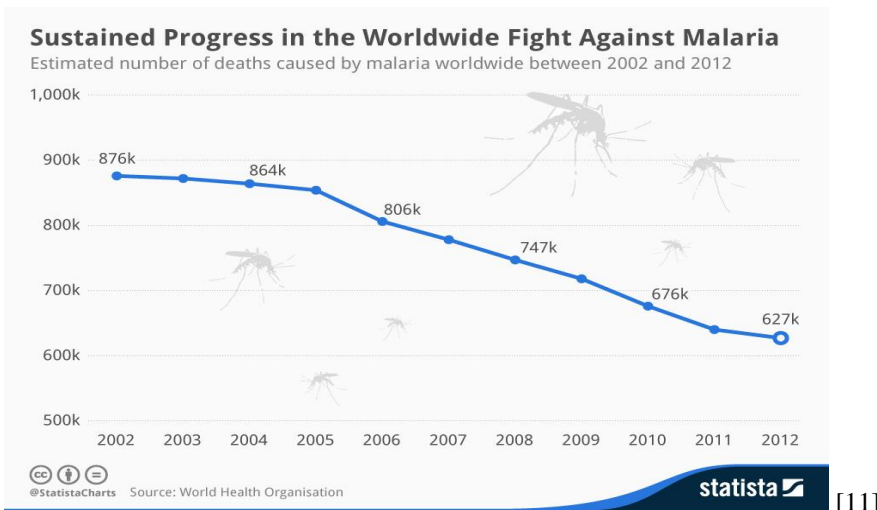
Transmission

Malaria is transmitted through the bites of female *Anopheles* mosquitoes. There are more than 400 different species. They also depends on climatic conditions that may affect the number and endurance of mosquitoes, such as rainfall patterns, temperature and humidity [9]

Prevention

Objective	Explanation	Drugs
Causal prophylaxis	The preerythrocytic phase (in liver) which is the cause of malarial infection is the target for this purpose	Primaquine, Proguanil
Suppressive prophylaxis	Schizontocides which suppress the erythrocytic phase and thus attack of malarial fever	Chloroquine, Chloroquine, Mefloquine, Doxycycline
Radical cure	Total eradication of parasite from the blood	Primaquine, Tafenoquine

Death rate in world



5. CONCLUSION

To reduce date rate in the world, public awareness of the growing risk presented by the resurgence of malaria.

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