

DISEASES SPREAD BY INSECTS- MALARIA



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Revision

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class- B.A-I,Sem.II

Definition of Malaria and type of malaria parasite

Is an infection of liver and RBCs caused by protozoan parasites of the genus plasmodium.

Malaria is caused by 5 species of plasmodium:

- *P. falciparum* (the most common and dangerous).
- *P. vivax*.
- *P. ovale*.
- *P. malaria*.
- *P. knowlesi*.

What do you think about the risk factor of malaria?



Risk factors of malaria

- Living or traveling in a region where malaria is present.
- **Traveling to area where malaria is common:**
 - Without taking medicine to prevent malaria.
 - Being outdoors, especially in rural areas.
 - Not taking steps to protect yourself from mosquito bites.
- Pregnant women.
- Children under 5 years of age.
- Patients with HIV/AIDS.

What do you think about the signs
and the symptoms of malaria?



Signs and symptoms of malaria

- Cycles of shaking chills followed by fever and profuse sweating.
- Hemolytic anemia.
- Jaundice.
- Dark pigmented urine (blackwater fever)
- Stools became increasingly loose.
- Hepatomegaly.
- Splenomegaly.
- Headache.
- Dry cough.
- Lost weight.



Complication of malaria

species	Major complication
<i>P. falciparum</i>	Cerebral malaria, haemolytic anaemia (blackwater fever), jaundice, hypoglycaemia
<i>P. vivax</i>	Relapse due to liver hypnozoites.
<i>P. malaria</i>	Nephrotic syndrome
<i>P. Ovate</i>	Relapse due to liver hypnozoites

Complication of malaria

CNS

Cerebral malaria
(coma, convulsions)

Renal

- * Hemoglobinuria (black water fever)
- * Oliguria
- * Acute renal failure

Blood

- * Severe hemolytic anemia.
- * DIC (Disseminated intravascular coagulation).
- * ARDS

Metabolic

- * Hypoglycemia.
- * Metabolic acidosis

Gastrointestinal /liver

- * Diarrhea.
- * Jaundice.
- * Splenic rupture.

Other

- * Shock-hypotention.
- * Hyperpyrexia.

Incubation period of the parasite

species	Incubation period (Liver cycle)
<i>P. falciparum</i>	7-14 days
<i>P. vivax</i>	12-17 days (with relapse up to 3 years)
<i>P. ovale</i>	9-18 days (with relapse up to 20 years)
<i>P. malaria</i>	13-40 days.

Prevention of malaria

1- Prevent mosquito bite by:

Covering the limbs.

Using insects repellents.

Sleeping under mosquito nets.

Stagnant water should be avoided.

2- Chemical prophylaxis for travelers:

When you traveling to area:

Without chloroquine resistance: chloroquine is used.

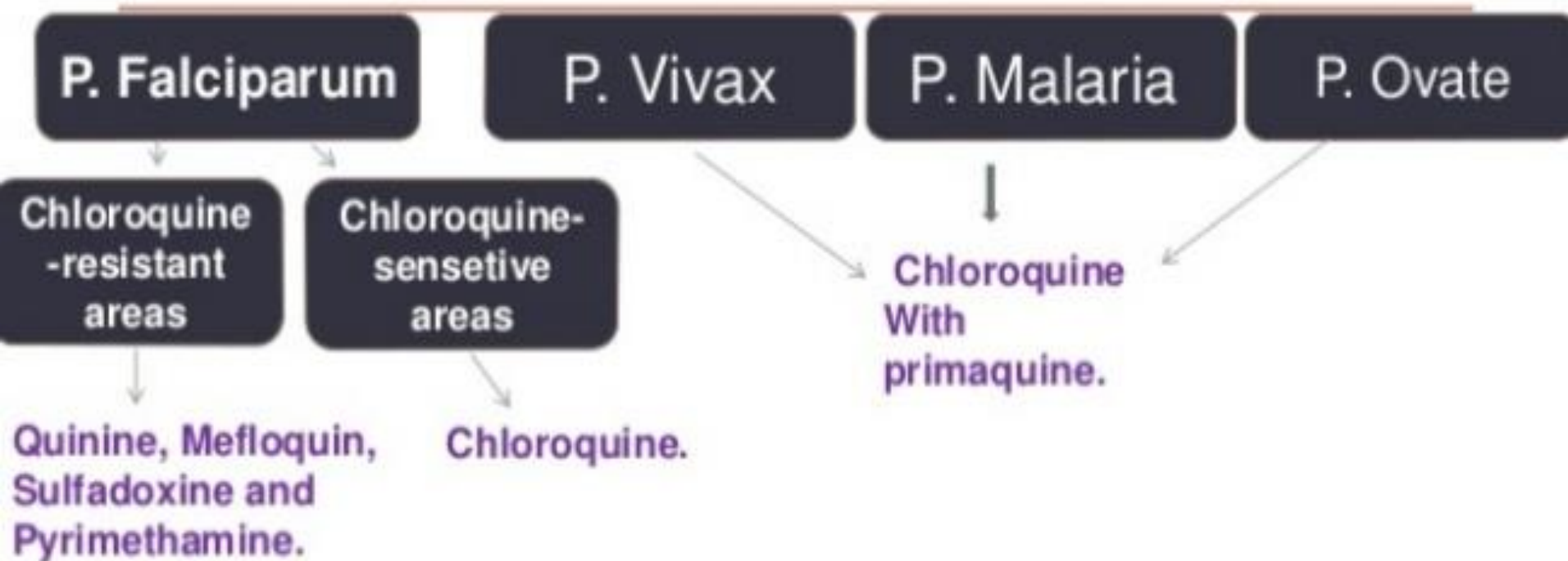
With chloroquine resistance: melfloquine or doxycycline may be used.



Treatment of malaria

To treat Malaria we must understand 2 concepts:

- The geographic pattern of susceptibility of *P. Falciparum* to antimalarial drugs.
- The type of plasmodium species causing the infection.



Summary

- Malaria is an infection of liver and RBCs.
- Caused by 5 different species of plasmodium.
- Malaria is one of the most serious problems.
- Symptoms: Fever(which may be periodic), chills, sweating, hemolytic anemia and splenomegaly.
- Diagnosis is by seeing plasmodium in a peripheral blood smear.
- Treatment and prophylaxis depend on the species and drug sensitivity.

Any Question?



Thank you