

Lecture (5) practical parasites

Genus :*Plasmodium*

Plasmodium :is a eukaryote protozoanparasite.

Scientific name of disease :Malaria in humans.

Transmition : transmitted by bite the female of*Anopheles*mosquito.

*Plasmodium*parasite including *Plasmodium falciparum* (dangerous malaria) ,*P. malariae*,*P.ovale* and *P. vivax*, the incubation period (16 to 59 days).

Differencesbetween four types of *Plasmodium*:

Factors	<i>P.malariae</i>	<i>P. vivax.</i>	<i>P. falciparum</i>	<i>P. ovale</i>
Ring stage	Medium size	large	small	Large
Developmental cycle	72 hours	48 hours	48hours	48hours
fever	quartan(which recur at three-day intervals)	tertian(recur at two-day intervals)	tertian(recur at two-day intervals)	tertian(recur at two-day intervals)
merozoites	2000 merozoites	10,000 merozoites	40,000 merozoites	15,000 merozoites
morbidity	Low morbidity	mediummorbidity	high morbidity(malignant)	Low morbidity

Habitat: Red blood cells of human

Pathogenicity:

Uncomplicated malaria caused by all four species and characterized byperiodic fever and chills, mild anemia and splenomegaly. complicated malaria is caused by *P. falciparum* infections characterized by hyper anemia .

Diagnosis :Direct blood smears.PCRtechniques are used for diagnoses and to separate mixed *Plasmodium* infections.

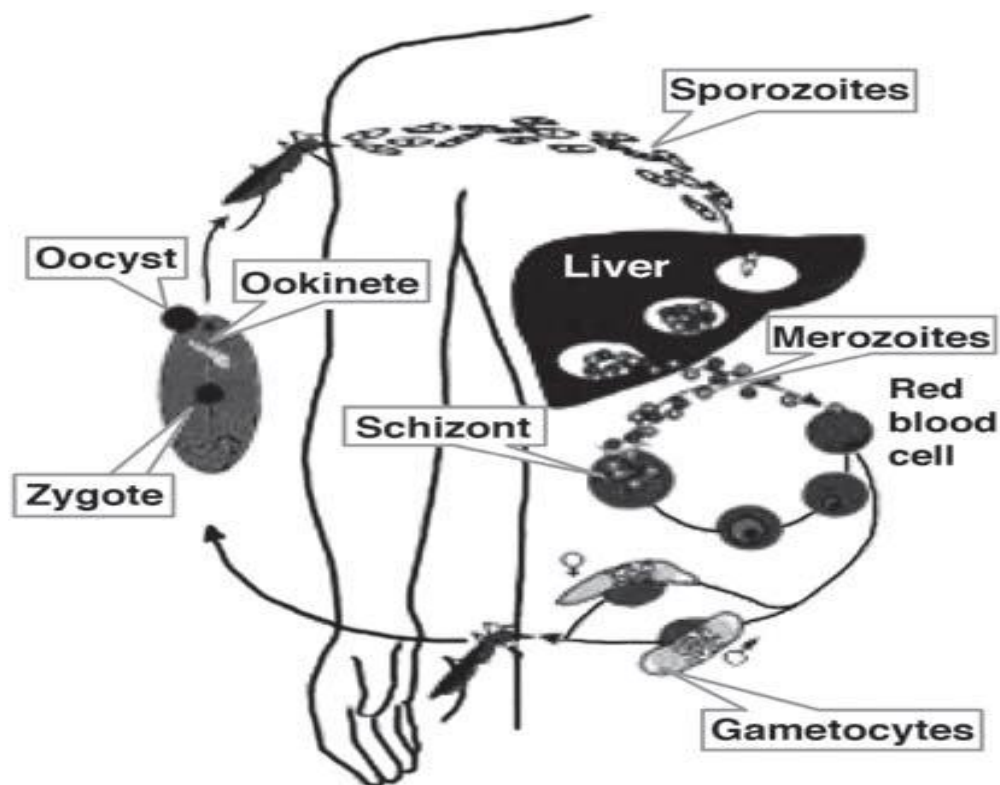
Control:Avoid mosquito bites.Take chemoprophylaxisin epidemic region

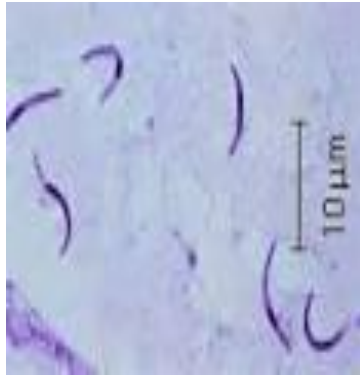
Treatment

- artemether plus lumefantrine
- artesunate plus amodiaquine
- artesunate plus mefloquine
- artesunate plus sulfadoxine-pyrimethamine
- dihydroartemisinin plus piperaquine

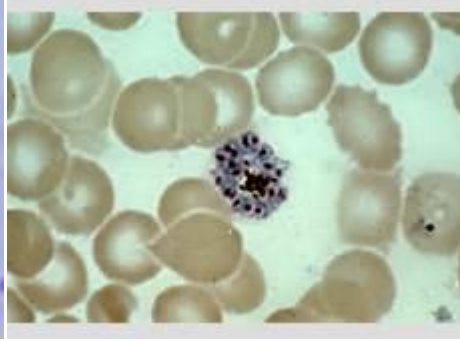
Any of these combinations are to be given for 7 days.

Plasmodium life cycle

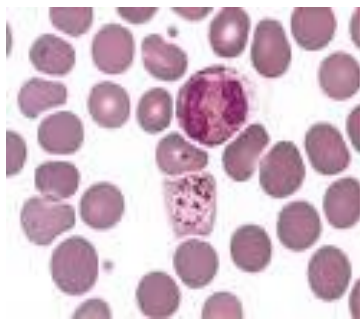




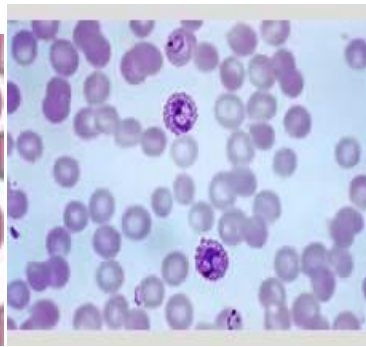
Sporozoite



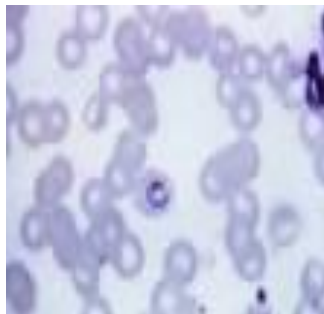
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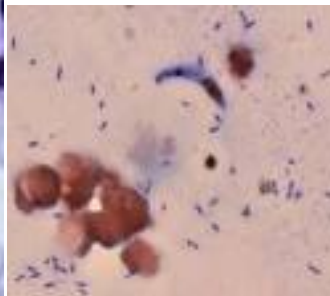
Merozoites



trophozoite



ring stage



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