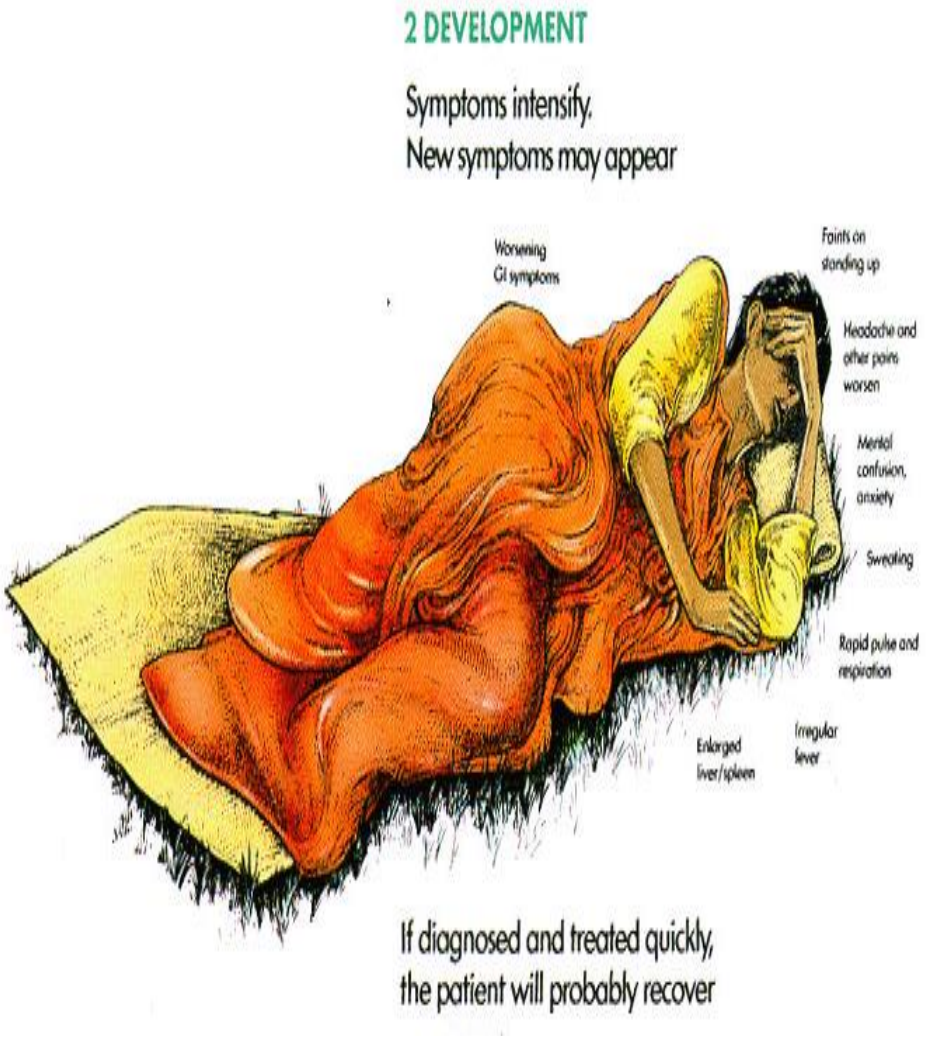
- The symptoms often associated with malaria are due to bursting red blood cells and clogged capillaries of major organs. Infection occurs when an infected anopheles mosquito feeds on an individual releasing sporozites into the blood stream. Mosquitos can carry more than one species and thus can infect peoples with more than one species

Malaria stages of the disease

Malaria intensifies



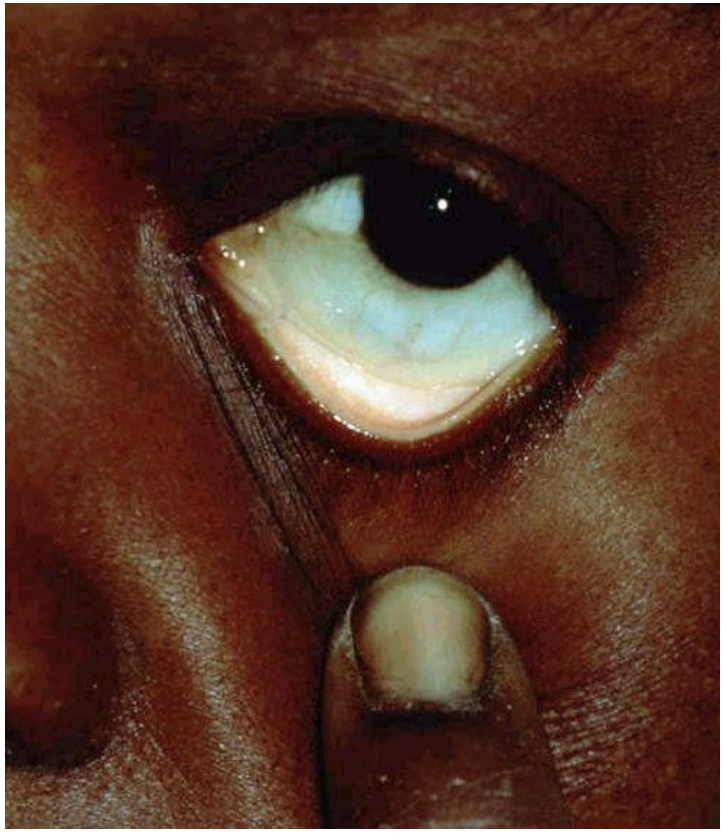
- Symptoms intensify
- Irregular high fever
- Anxiety, delirium and other mental problems
- Sweating, increased pulse rate, severe exhaustion
- Worsening GI symptoms
- Enlarged spleen and liver

Broad clinical manifestations of Malaria

- Fever
- Sweating
- Anemia
- Splenomagaly (enlarged spleen)
- Irratability
- Coma, Retinal Hemorrages
- Algid Malaria (a shocklike syndrome)
- Respiratory distress syndrome

Pathogenesis of Malaria

- In highly endemic areas: high mortality among children due to severe anemia, children who survive beyond the first years show decreasing parasitemia and disease (this immunity is not sterile and depends on constant exposure)



Cerebral Malaria

- Malignant malaria can affect the brain and the rest of the central nervous system.
- Present with Hyperpyrexia
- Can lead to Coma
- Paralysis and other complications.
- Brain appears congested

Black Water Fever

- In malignant malaria a large number of the red blood corpuscles are destroyed. Haemoglobin from the blood corpuscles is excreted in the urine, which therefore is dark and almost the colour of cola

How long Malaria infection can lost in Man

- Without treatment P.falciparum will terminate in less than 1 year.
- But in P.vivax and P.ovale persist as hypnozoites after the parasites have disppeared from blood.
- Can prodce periodic relapses upto 5 years
- In P.malariae may last for 40 years

  (Called as ***recrudescence*** X relapse)

Parasites survive in erythrocytes Liver ?

Why Falciparum Infections are Dangerous (Pernicious Malaria)

- Can produce fatal complications,
    1. Cerebral malaria
    2. Malarial hyperpyrexia
    3. Gastrointestinal disorders.
    4. Algid malaria
    5 Black water fever can lead to death

Uncomplicated Malaria

- The classical (but rarely observed) malaria attack lasts 6-10 hours. It consists of:
- a cold stage (sensation of cold, shivering)
- a hot stage (fever, headaches, vomiting; seizures in young children)
- and finally a sweating stage (sweats, return to normal temperature, tiredness)

Complication in Malaria

- Pulmonary edema (fluid buildup in the lungs) or acute respiratory distress syndrome (ARDS), which may occur even after the parasite counts have decreased in response to treatment
- Abnormalities in blood coagulation and thrombocytopenia (decrease in blood platelets)
- Cardiovascular collapse and shock

Other Complications In Malaria

- Acute kidney failure
- Hyperparasitemia, where more than 5% of the red blood cells are infected by malaria parasites
- Metabolic acidosis (excessive acidity in the blood and tissue fluids), often in association with hypoglycemia

Treatment

Malaria is treated with antimalarial medications; the ones used depends on the type and severity of the disease.

Simple or uncomplicated malaria may be treated with oral medications.

The most effective treatment for P. falciparum infection is the use of artemisinins in combination with other antimalarials (known as artemisinin-combination therapy, or ACT), which decreases resistance to any single drug component.