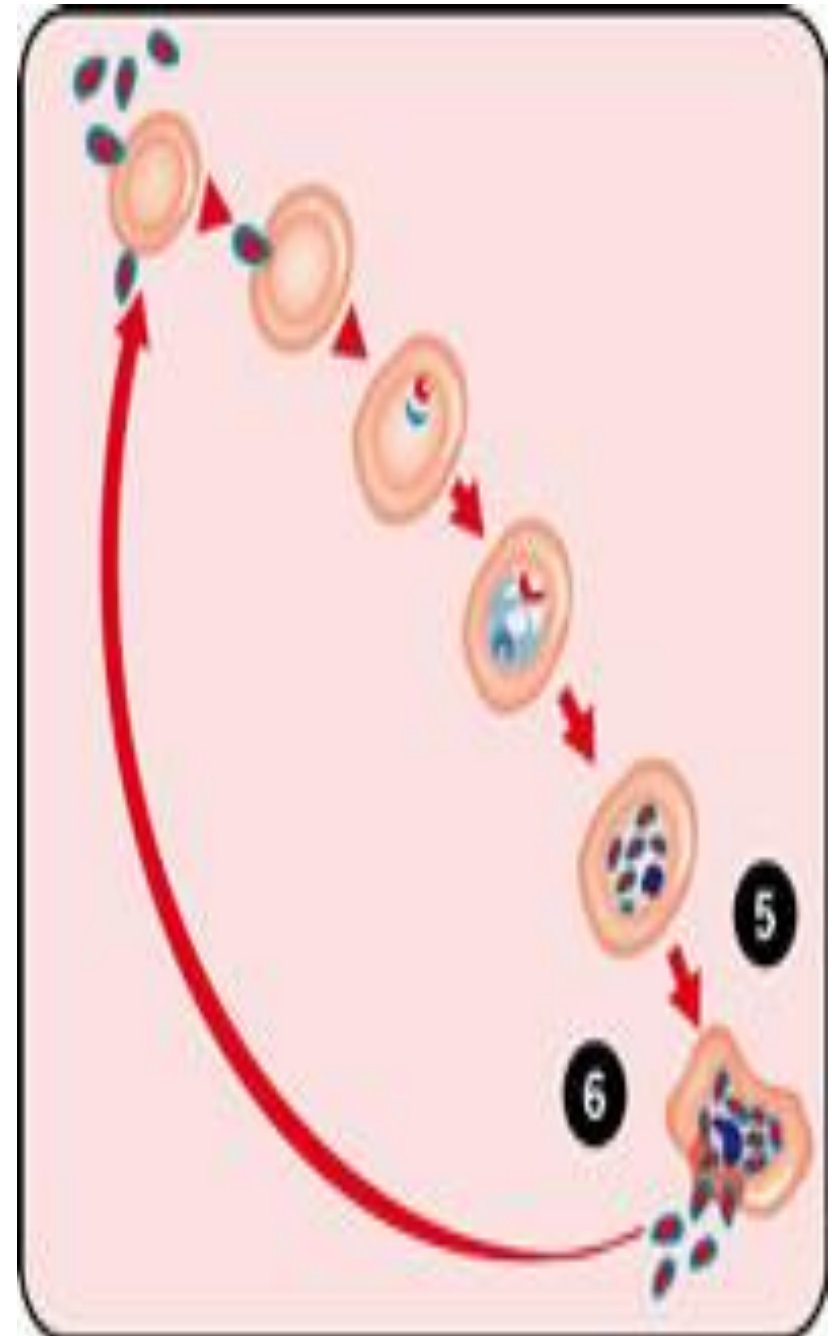


## 2 - Erythrocytic Schizogony

- Merozoites released invade red cells, *P.vivax* infects young erythrocytes
- *P.malariae* Infects old erythrocytes, *P.falciparum* infects RBC of all ages
- The Merozoites are pear shape, The receptors for Merozoites are on red cells in the glycoprotein
- Liberated Merozoites penetrate RBC, Three stages occur
  1. Trophozoites
  2. Schizont
  3. Merozoite
- Ruptured red cells release Merozoites which attack new red cells, Continue with Schizogony, Repeated cycles will continue
- In *P.falciparum* - infected erythrocytes with Schizonts aggregate in the capillaries of brain and other internal organs
- Only ring forms are seen in the blood smears



# *Trophozoites*

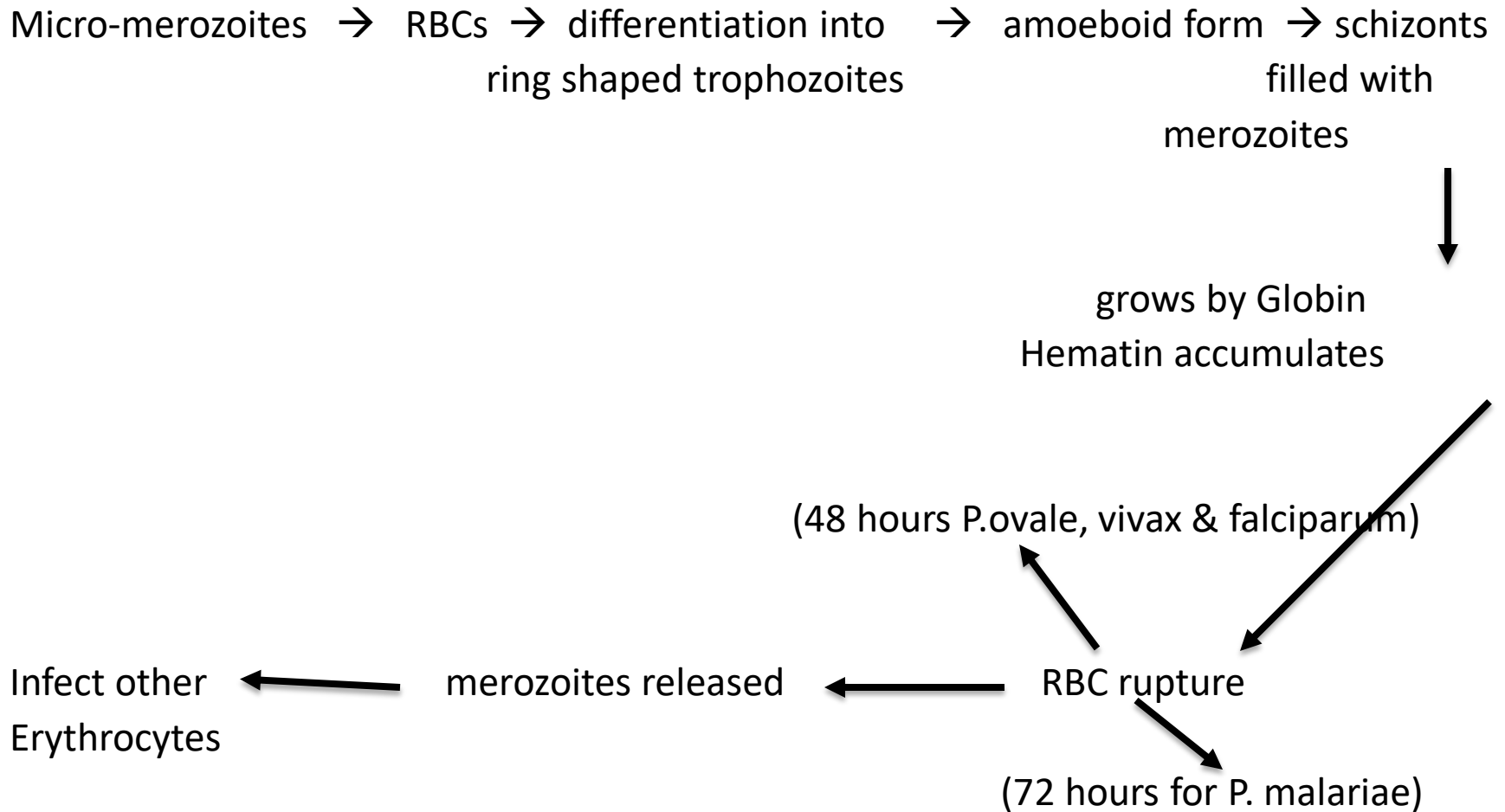
- After invasion grow and feed on hemoglobin
- Blue cytoplasm and red nucleus, Called as Signet ring appearance
- Hence called ring form



# *Schizont*

- When the Trophozoite is fully developed becomes compact.
- Malarial pigments are scattered through the cytoplasm
- The Nucleus is large and lies at the periphery starts dividing.
- Becomes Schizonts

# • Erythrocytic Schizogony



### 3 - GAMETOGENY

- After many cycles of erythrocytic shizogony
- Some merozoites give rise to GAMETOCYTES, capable of sexual reproduction after leaving human host
- Develop in RBCs of the capillaries of internal organs
- Mature gametocytes are seen in peripheral blood
- Microgametocyte of all species are similar in size
- Macro gametocytes are larger in size.
- Duration of maturation- 4 days
- No febrile reactions

## 4 - LATENT STAGE

- Some Sprozoites do not undergo sporogony in the first instance
- But go into resting stage called as Hypnozoites
- HYPNOZOITE STAGE
- Only in Vivax and ovale
- Arises from the initial tissue phase, capable of developing merozoites
- Responsible for relapses of vivax and ovale
- Within 2 years reactivate to form Schizonts release Merozoites and attack red cell and produce relapses

## B - *Mosquito cycle – SPOROLOGY*

- Sexual cycle will be initiated in the Humans by the formation of Gametocytes
- Develop further in the female Anopheles Mosquito
- Only mature sexual forms are capable of further development in Mosquito
- In midgut one Microgametocyte develops into 4-8 thread like filamentous structures named Micro gametes
- From one macrogametocyte only one macrogamete is formed
- Fertilization occurs when a Microgametocyte penetrate into Macrogametocyte
- Fertilized macrogametocyte is known as ZYGOTE
- ZYGOTE matures into OOKINETE
- **OOKINETE to OOCYST**
- OOCYST matures with large number of Sporozoites ( A few hundred to thousands.)
- OOCYST ruptures and release SPOROZOITES in the body cavity of Mosquito
- There is a specific predilection for salivary glands
- Now capable to transmit the infection to new Host

# • SEXUAL CYCLE: SPOROGONY

