



## Department of biology



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((علم الطفيليات))

Stage two

Lec 6

داء المقوسات / داء القطط

By

ا.د خيري عبد الله داود

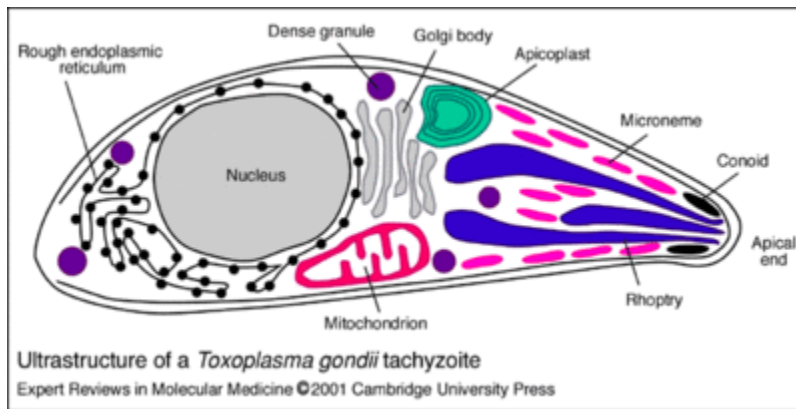
محاضره 6 طفيليات \ قسم علوم الحياة \ كلية العلوم \ جامعة المستقبل

## Lecture 6 \ Toxoplasmosis \ Genus : *Toxoplasma gondii*

\ داء المقوسات أو داء القطط

Phylum Protozoa \ class sporozoa

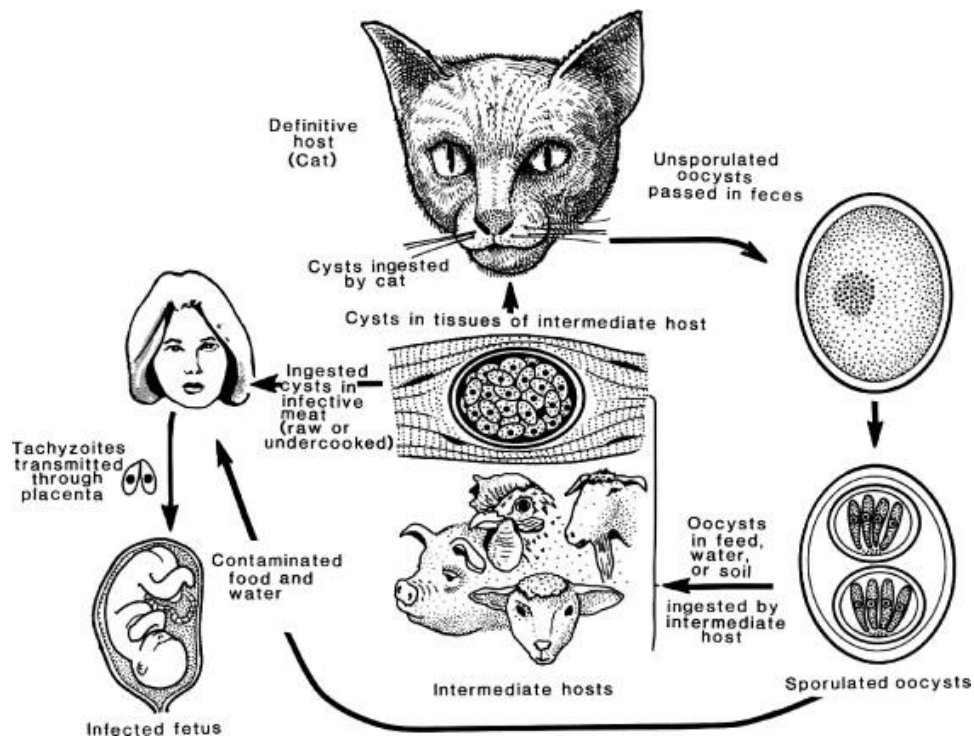
صنف البوغيات



**Trophozoit \ protozoal parasite , unicellular , have apical complex at anterior end with conoid disc and micronemes . have nucleus , mitochondria , Golgi complex , rough endoplasmic reticulum .**

***Toxoplasma gondii* world wide distribution ,**

**Infection is 30 % or 1 in 3 infected but asymptomatic**

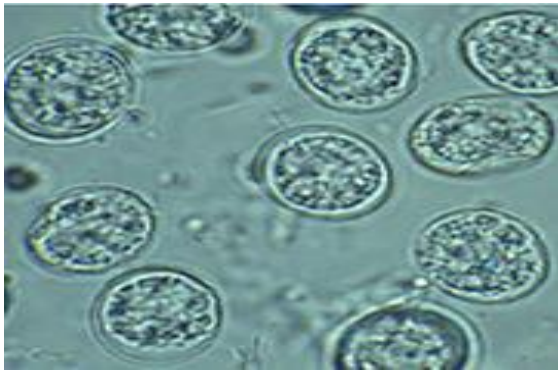


## Sexual Life Cycle in cat

- 1 – Cat , Final or definitive host and sometimes become intermediate host .
- 2 – All mammals and birds are intermediate host .
- 3 – Cat eat infected rodents ( mice or rat ) .
- 4 – Sporozoites ( merozoites) liberated from Bradyzoit which is located in muscles or brain of mice .
- 5 – Sporozoites infect epithelial cells of cat intestine , male and female gametes are formed .

**6 – These gametes infect other cells , Zygotes are formed .**

**7 - Then , finally Oocyst is formed , shedding it to outside with feces , can live several months , spread in soil .**



**Immature Oocysts in Fecal Sample**

## **Asexual Cycle in intermediate Hosts**

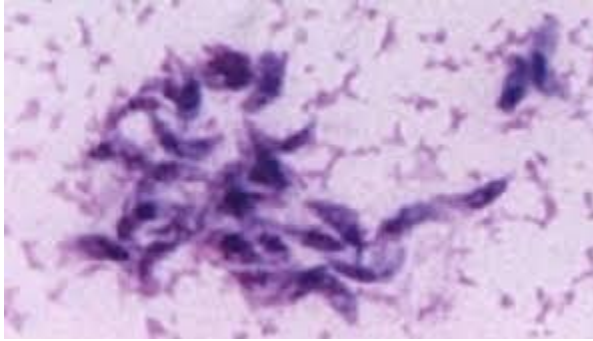
**1 - Asexual cycle occurs in all mammals and birds .**

**2 – Contaminated water and food with oocyst ingested by mammals ( human , sheep , Cow , rodents ) or birds .**

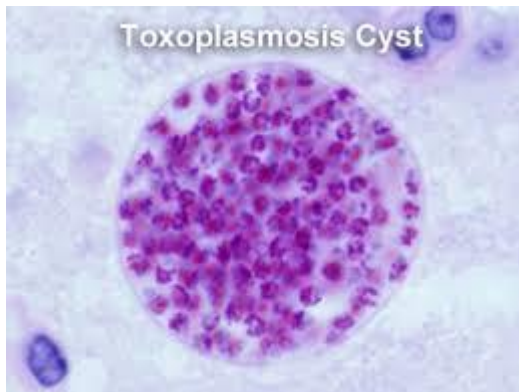
**3 - Sporozoites or ( merozoites) are liberated in intestine , Tachyzoites ( rapid multiplication )will occur and migrate to other tissues and organs .**

**4 – Due to resistance and immunity , parasite localized forming Bradyzoites , can be noticed in muscles and brain.**

**5 - Return back to the cats by eating muscles or brain of infected rodents .**



**Stage of Tachyzoites**



**Stage of Bradyzoit**

**Transmission to human :**

- 1- Contaminated food or water with Oocyst of cat feces.**
- 2- Undercooked meat or brain .**
- 3 – Through goat milk .**

**4 – From pregnant mother to her fetus through placenta.**

**( Congenital Toxoplasmosis )**

**5 – T. gondii can transmitted with blood transfusion .**

## **Prevention and Control**

**1 – Clean food and treated water .**

**2 – Checking and treat pregnant women .**

**3 – Get rid of stray cats .**

**4 - Complete cooking meat don't feed cats the raw meat.**

**Note : Infection occur mostly in people have weakened immune system .**

## **Congenital Toxoplasmosis :**

**If Toxoplasma pass through placenta of pregnant women , miscarriage ( Abortion ) or Stillbirth fetus or born with health problems such as Vision problems , blindness , and delay in talking and delay in learning (retardation) .**

