

# Parasitic gastrointestinal infections

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Klinika infekčních chorob LF MU a FN Brno

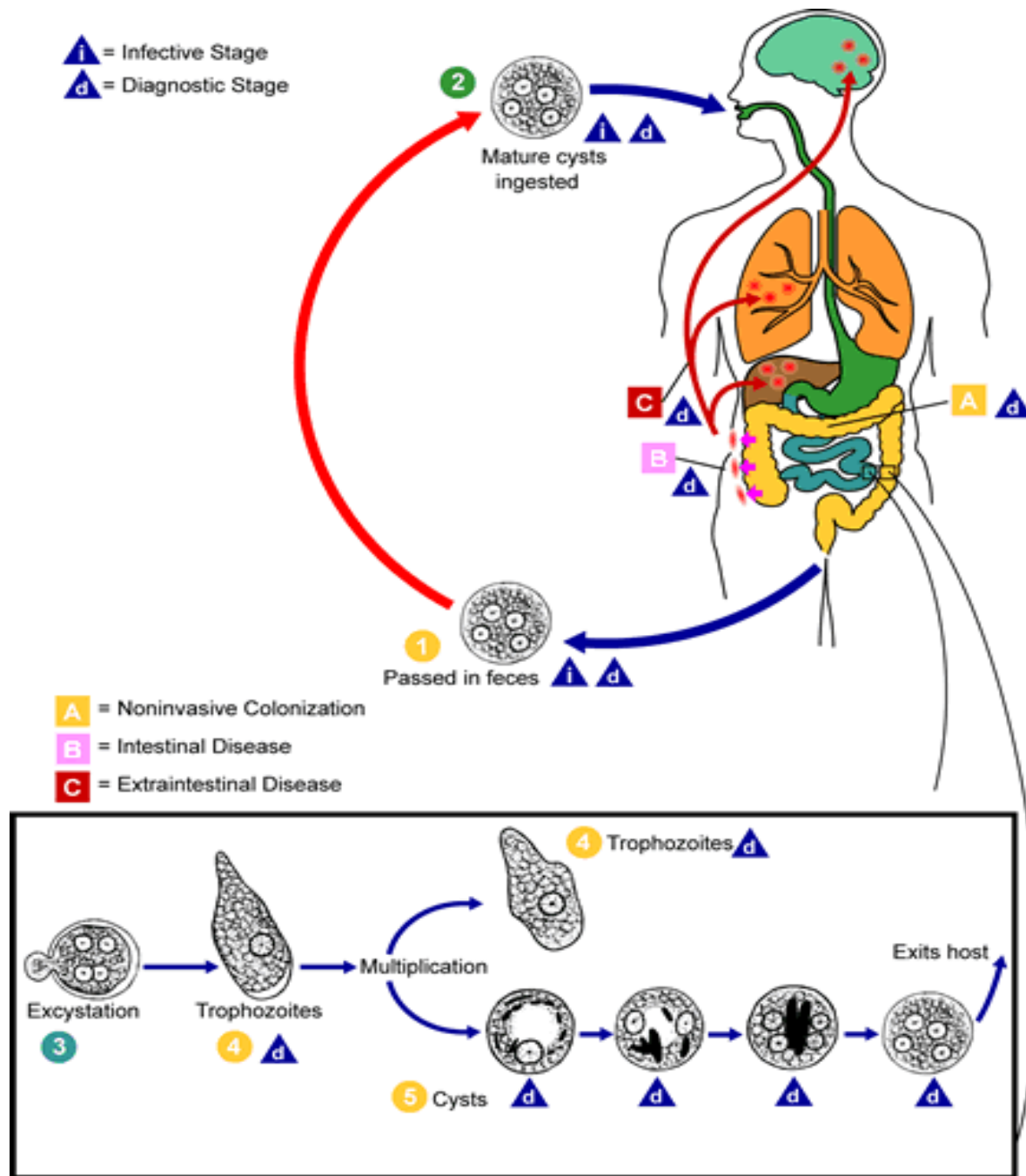
## Parasitic infection of GI tract

- protozoal
- helminthic
- fungal

# Protozoal infections

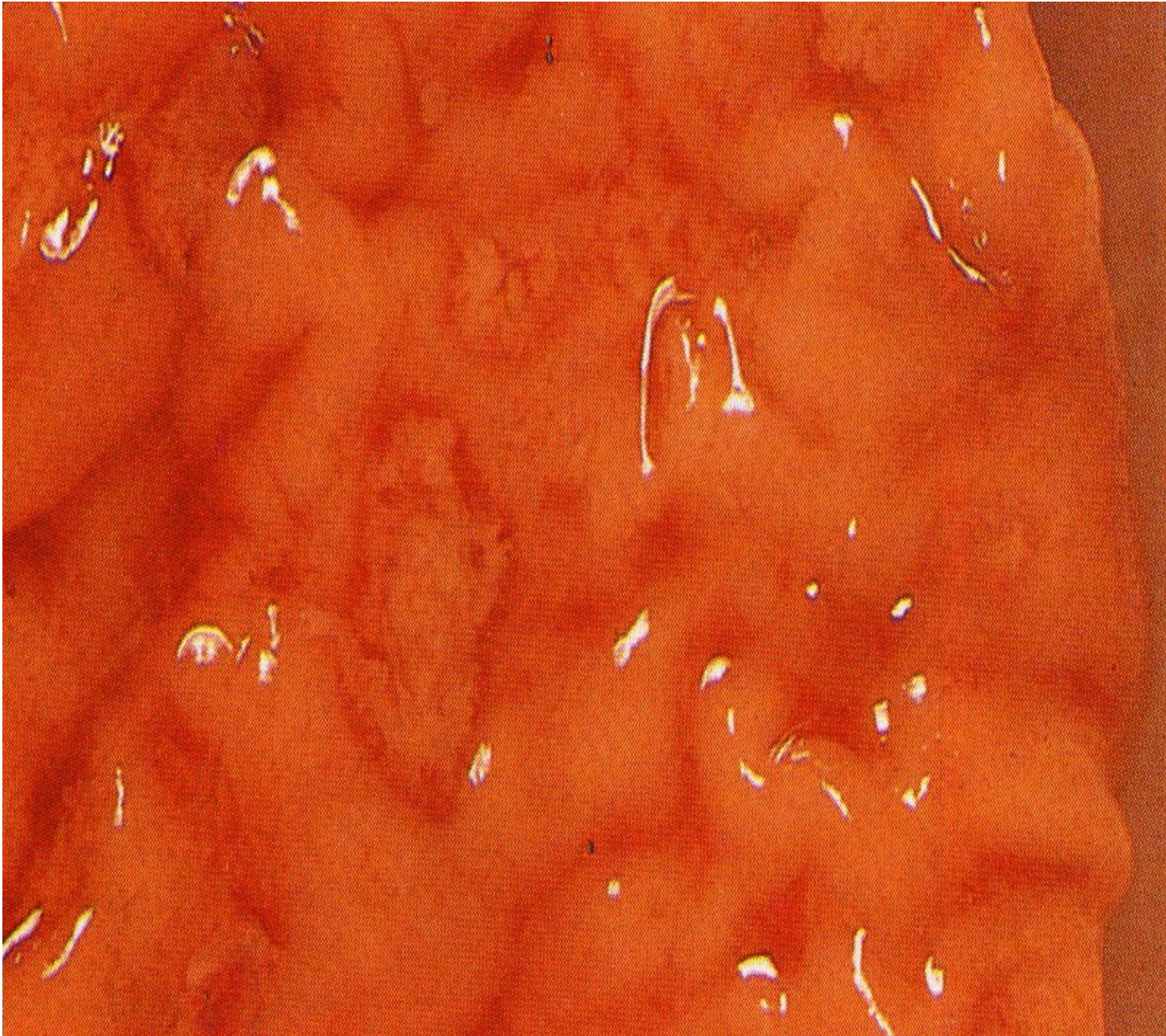
- **Human**
- Amebiasis (*Entamoeba histolytica*)
- Lambliasis = giardiasis (*L.*, *G. intestinalis*)
- **Zoonotic**
- cryptosporidiosis (*Cryptosporidium parvum*)
- isosporosis (*Isospora belli*)
- microsporidiosis (*Enterocytozoon bineusi*)
- cyclosporiasis (*Cyclospora cayetanensis*)

# Amebiasis



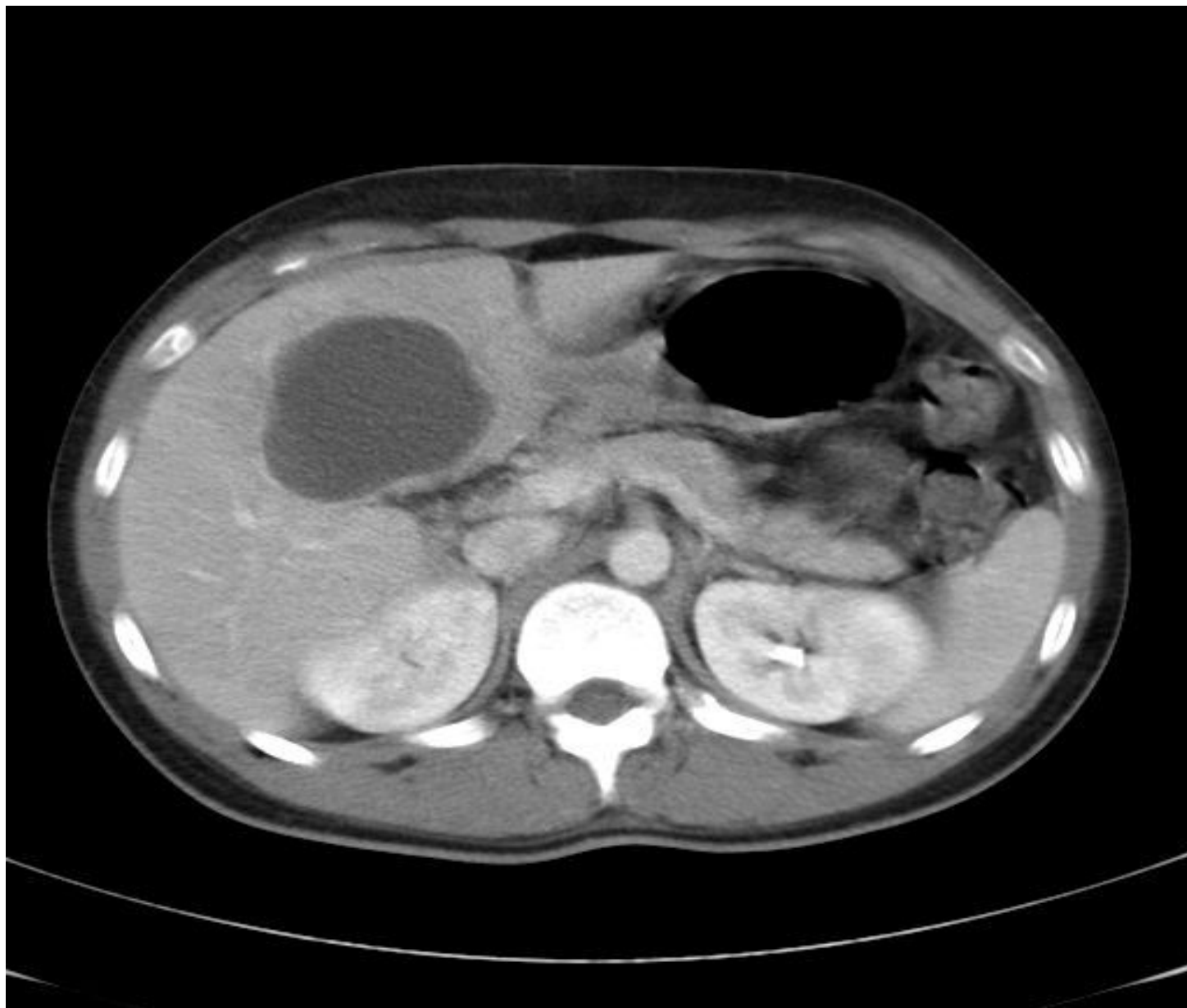


Amebic colitis





Amebic  
abscess



CT – day 0

Amebic  
abscess



CT – drainage of 2 abscesses – day 2

Map 3  
150dB/C3  
Persist Med  
Fr Rate Med  
2D Opt:Gen

ATL

D X

+

5.76cm

US - day 0



Map 3  
150dB/C3  
Persist Med  
Fr Rate Med  
2D Opt:Gen

ATL

+ 4.23cm  
× 2.98cm

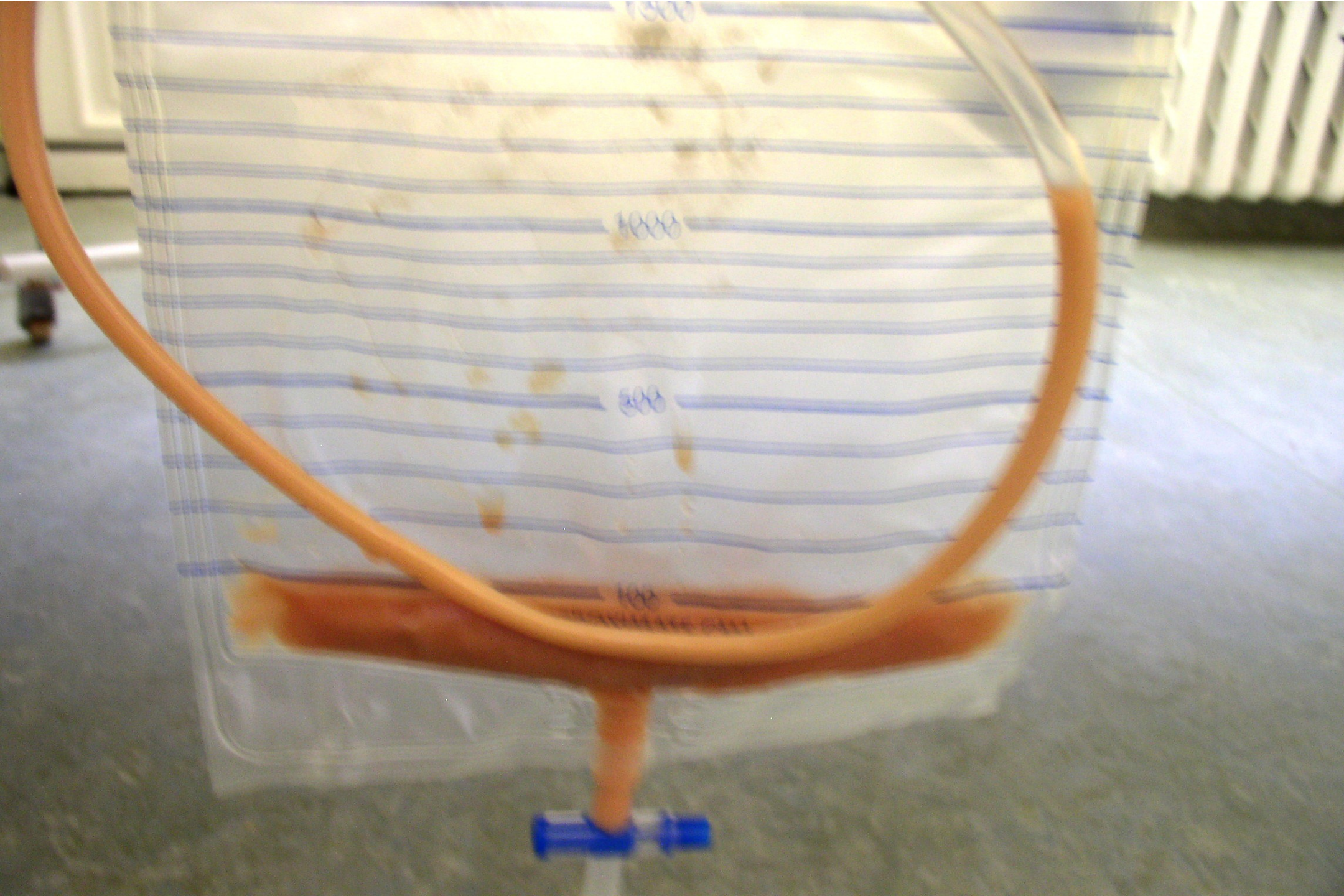
US – day 5













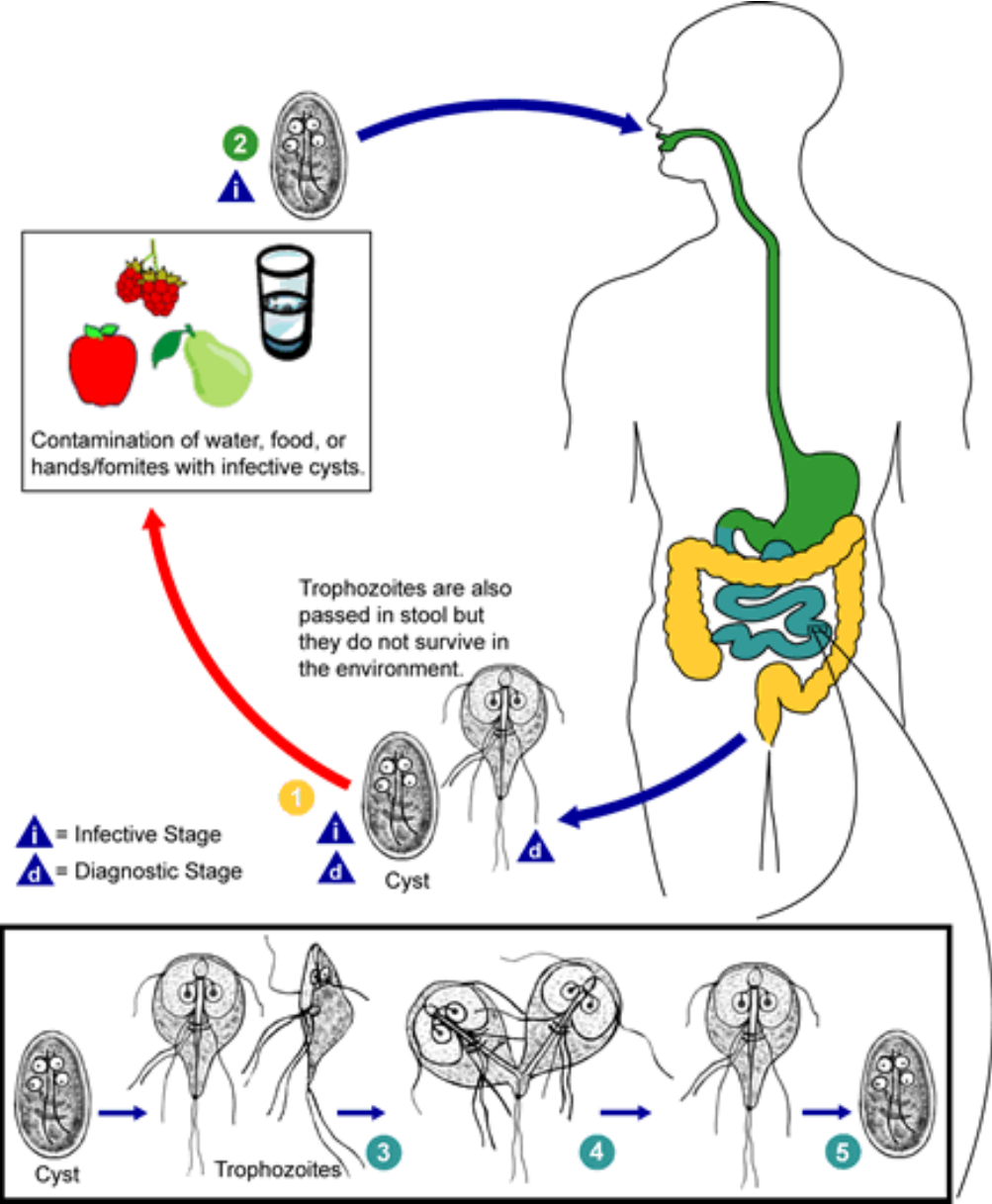




Amebic abscess –  
transcutaneous puncture

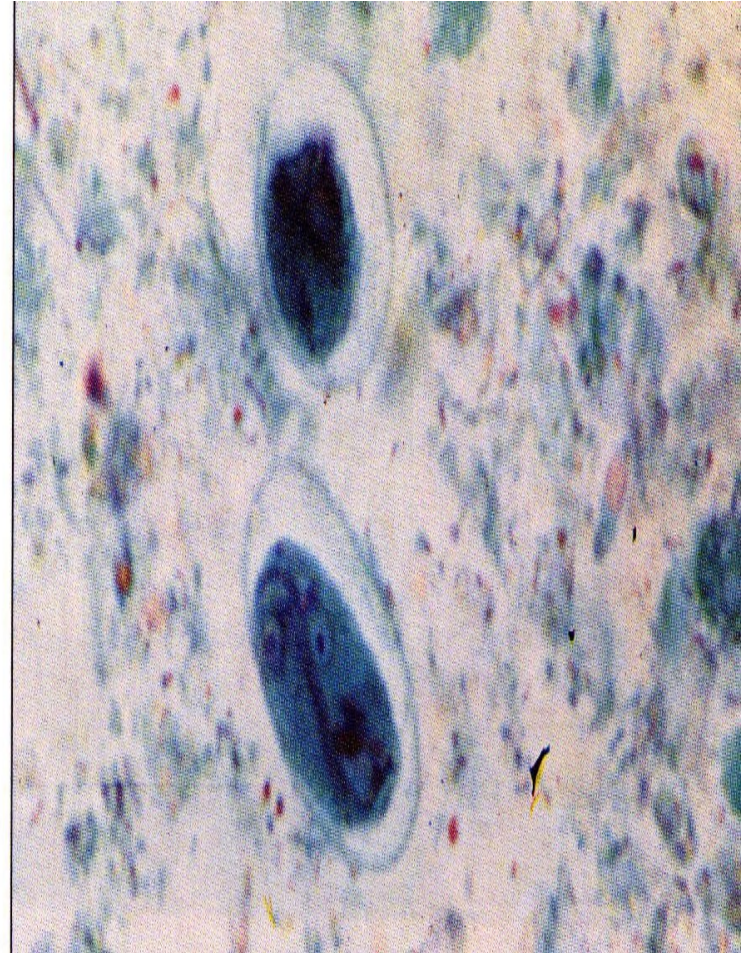


# Lambliasis, girardiasis





Lamblasis  
microscopy





Lambliasis  
scan



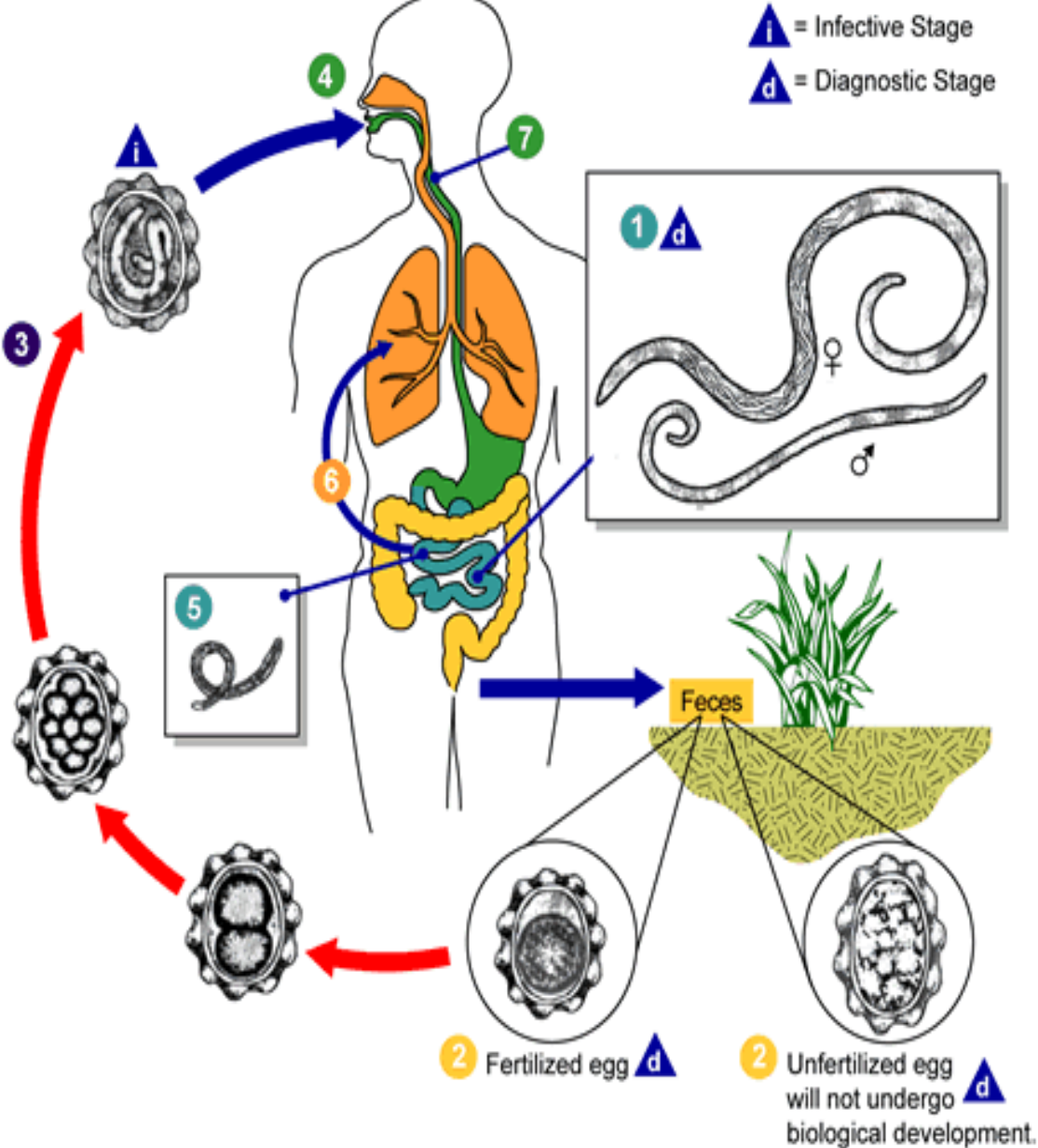
# Helminthic GI infections

- **Roundworms (Nematodes)** - ascariasis, enterobiosis=oxyuriasis, trichuriasis
- **Tapeworms (Cestodes)** - teniosis, diphylobotriosis, hymenolepsiosis, echinococcosis, alveococcosis
- **Flukes (Trematodes)** - schistosomosis

# Roundworms (Nematodes)

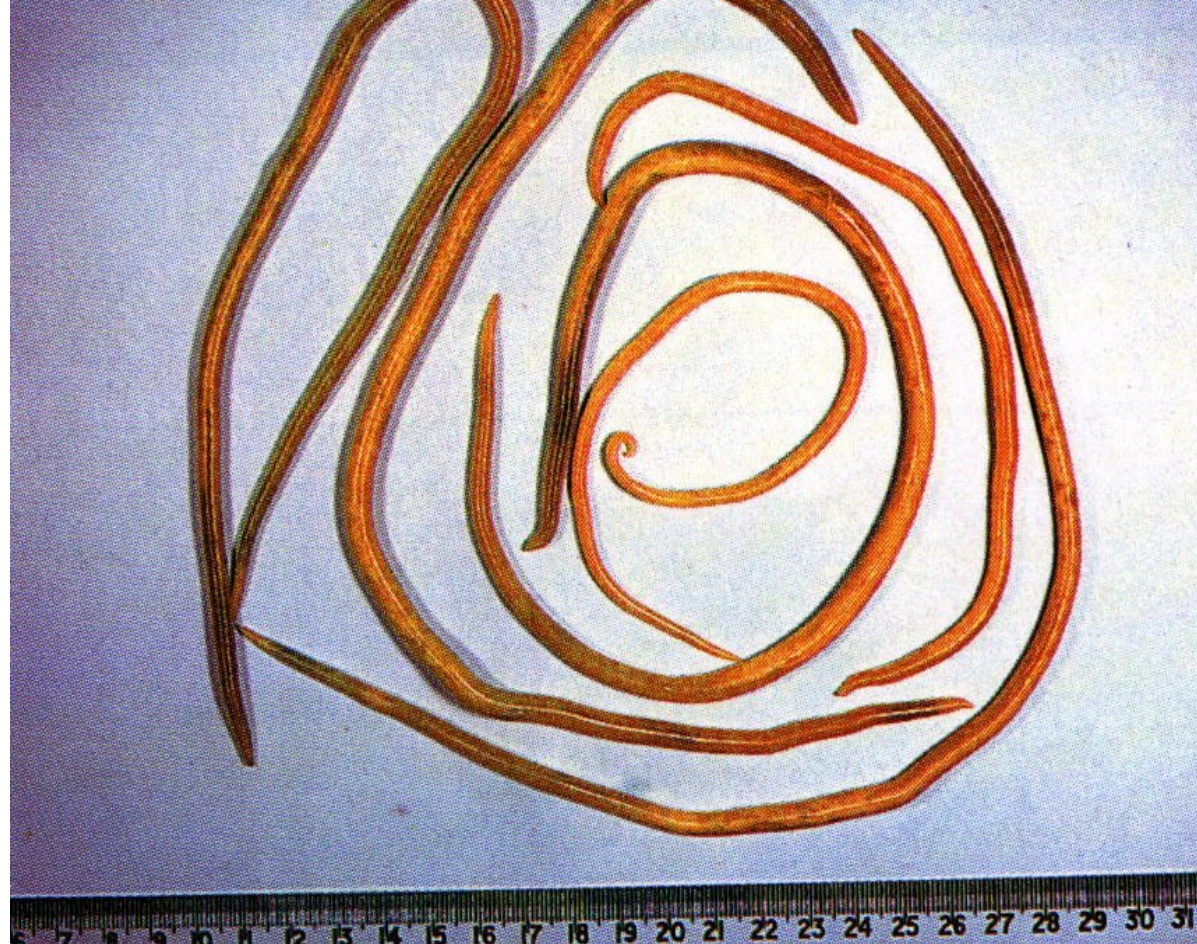
- *Ascaris lumbricoides*
- *Enterobius, Oxyuris vermicularis*
- *Trichuris trichiura*

# Ascariosis





*Ascaris lubricoides*



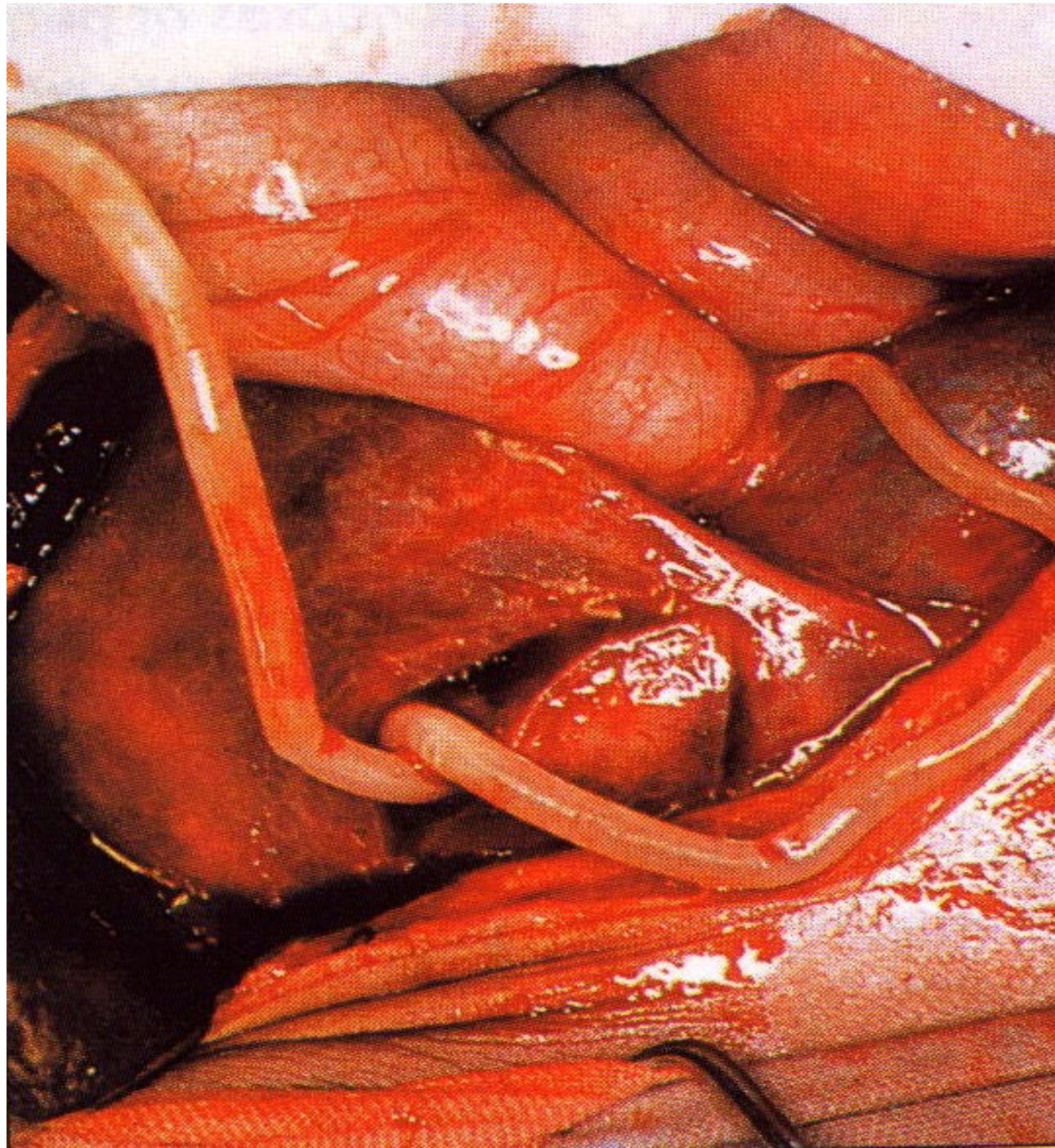
Differential diagnosis: earthworm  
- reproductive band (hermaphrodite)  
- round terminations







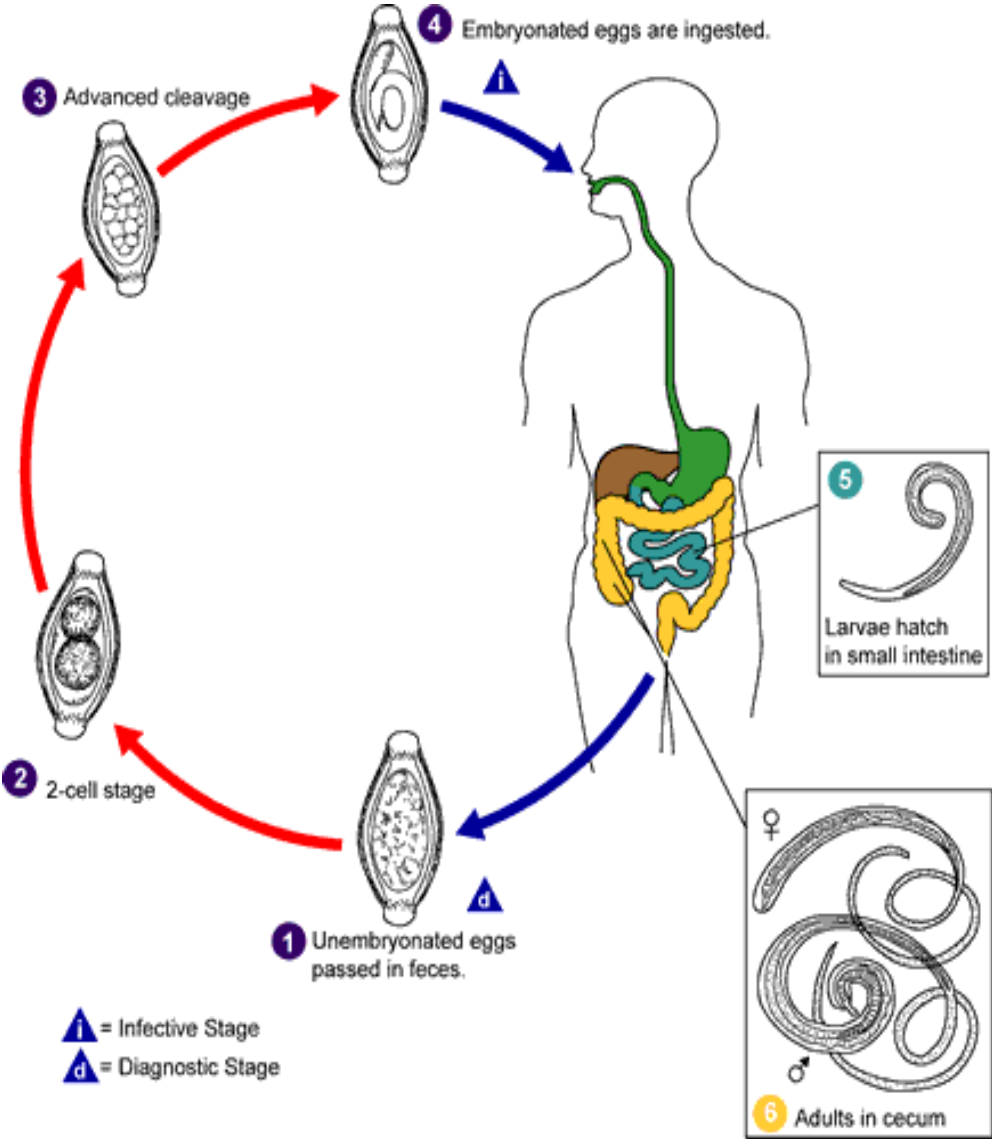




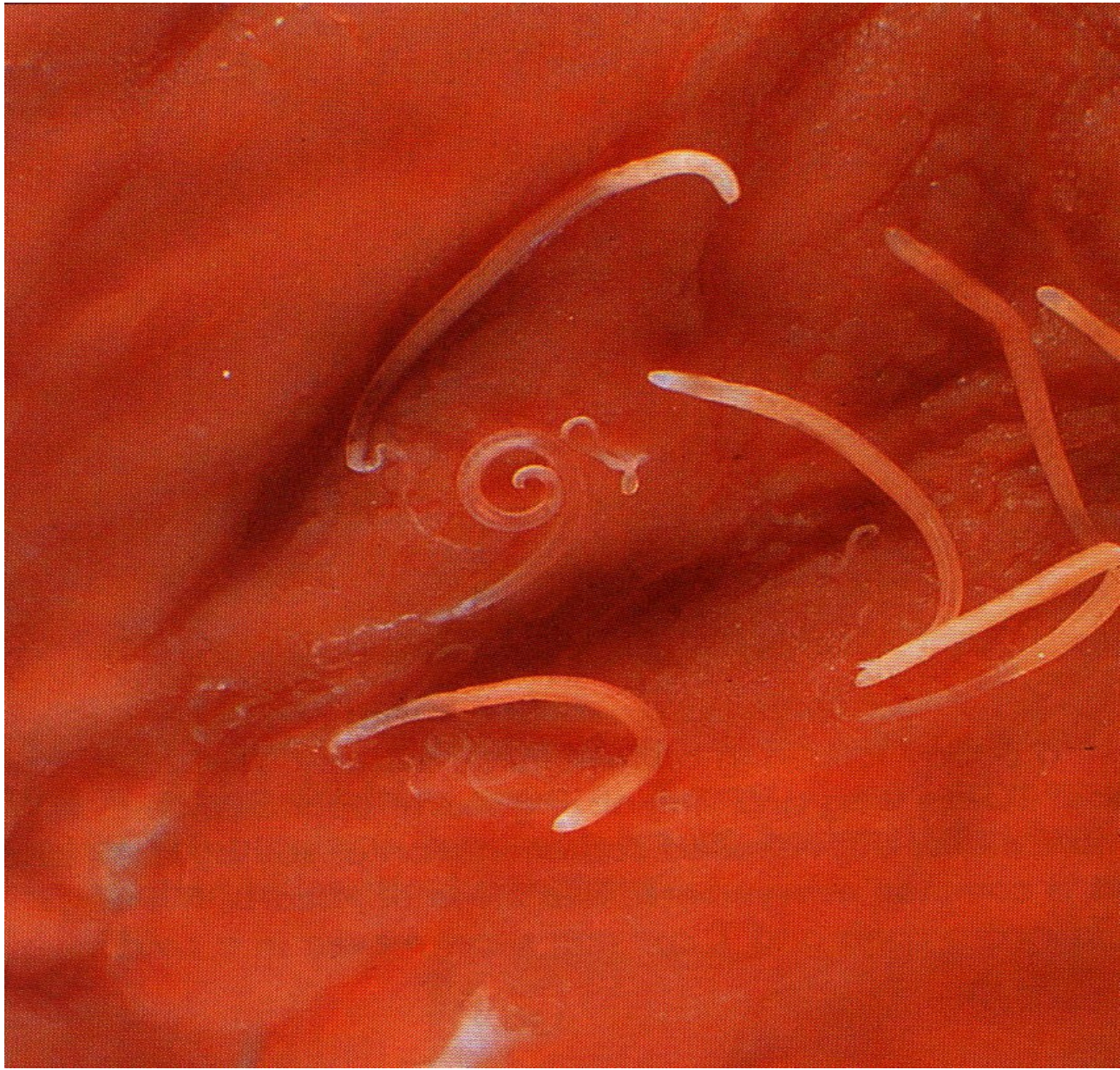




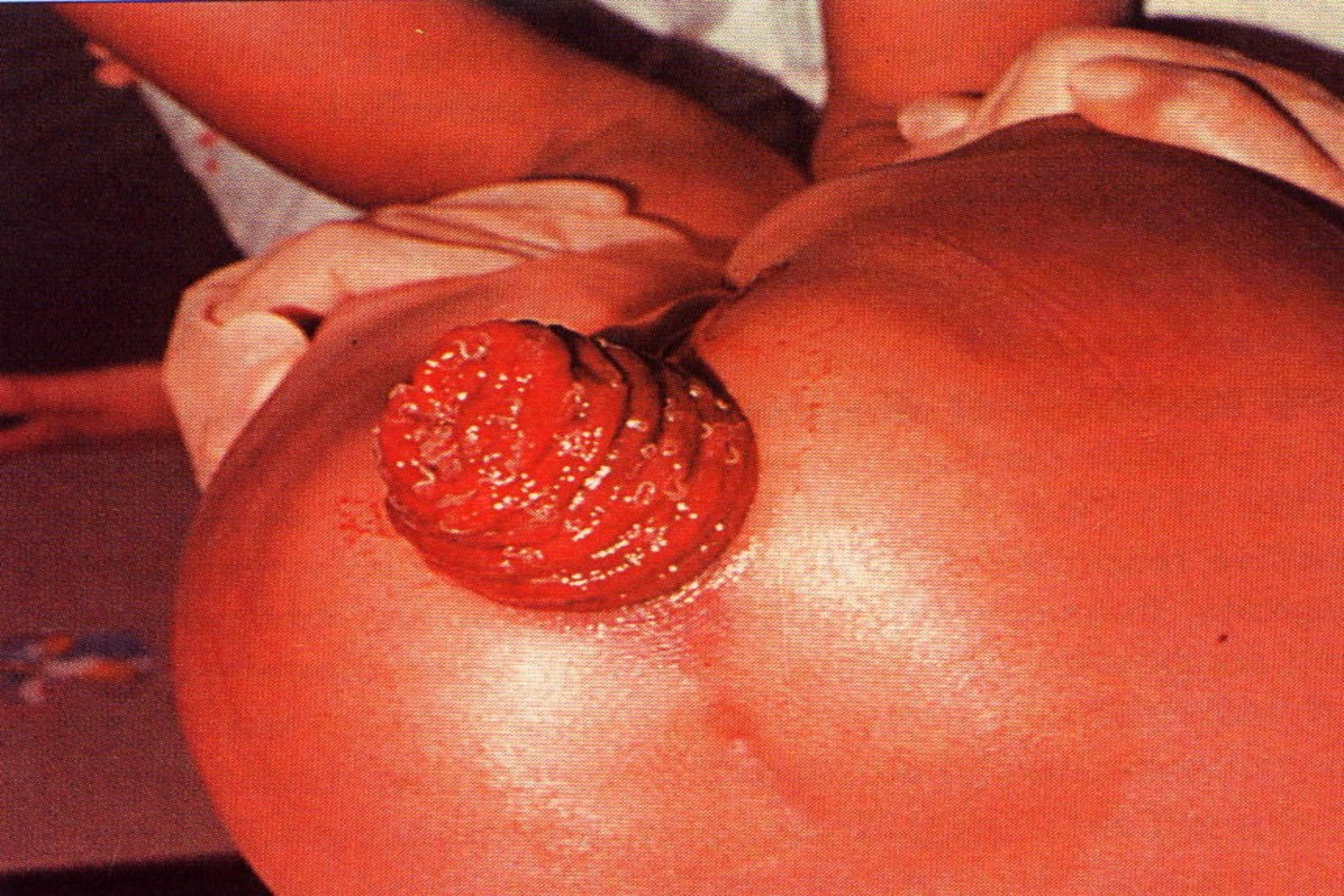
# Trichuriasis





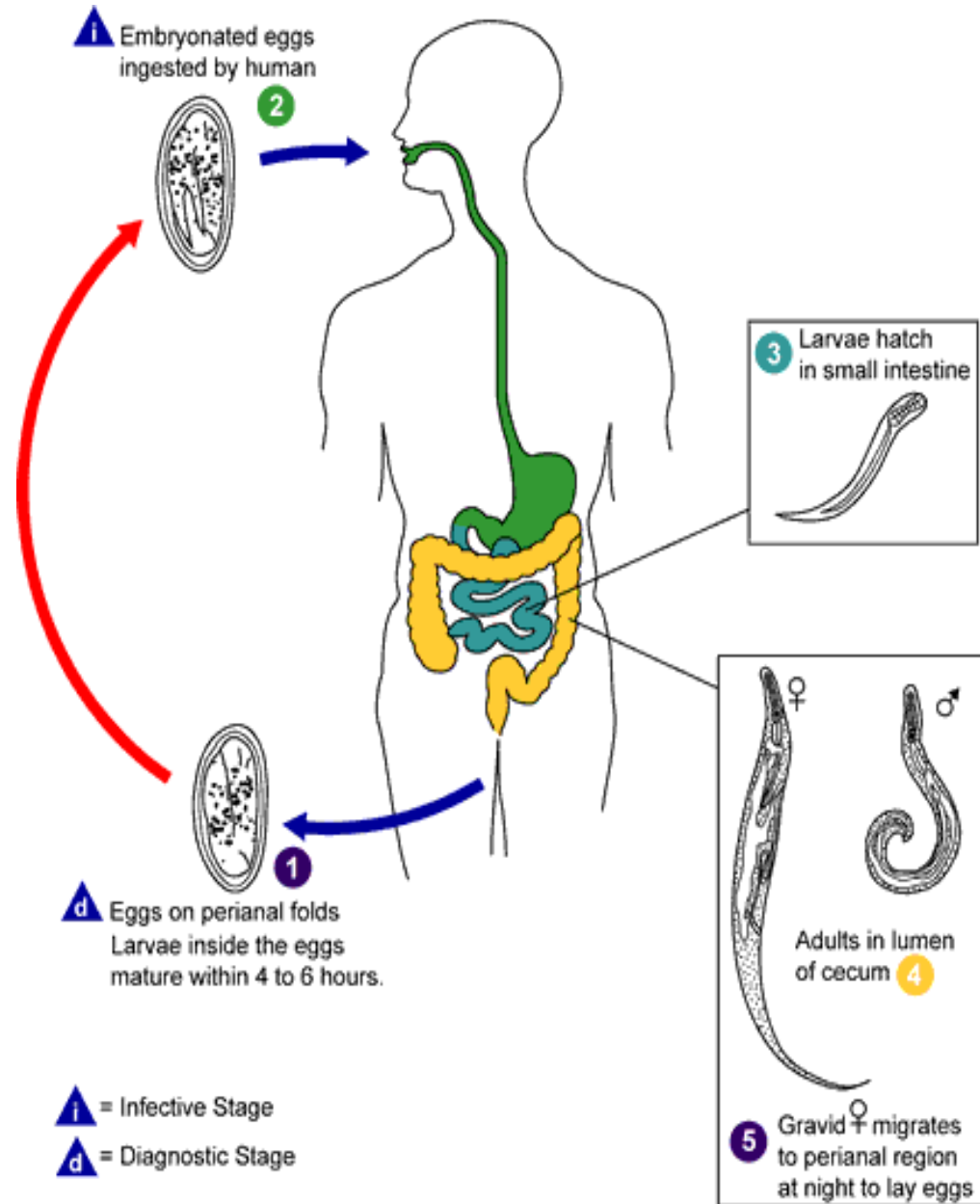




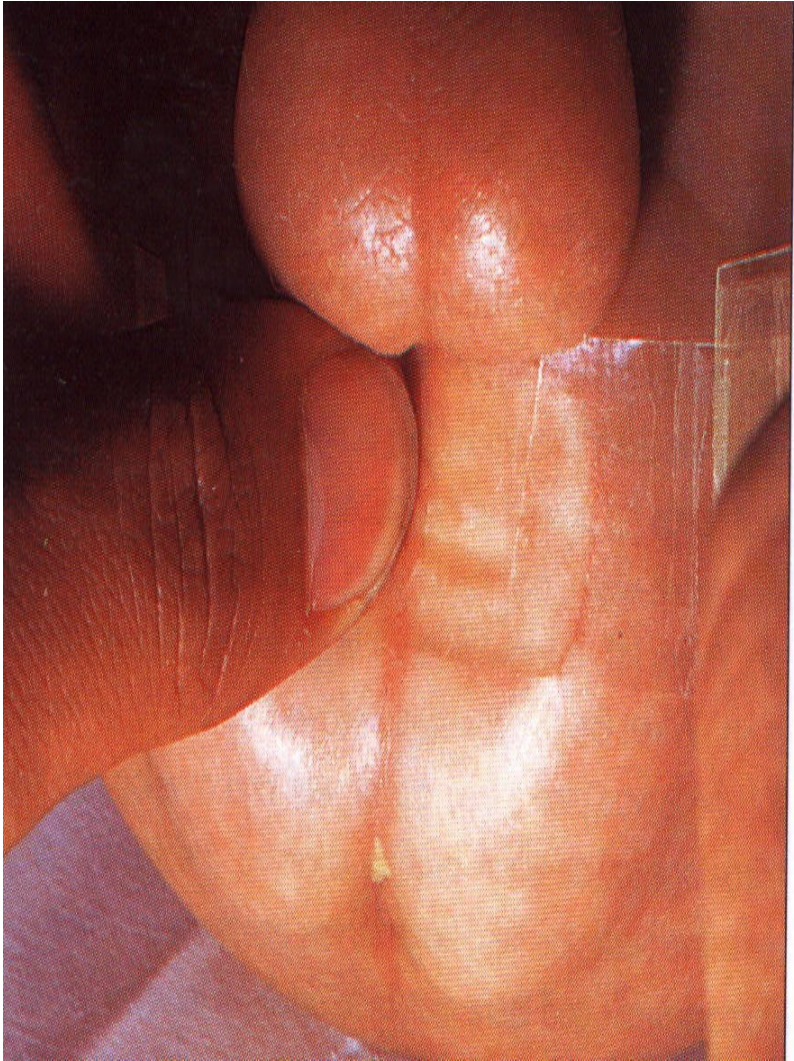




# Enterobiosis, oxyuriasis



**Enterobios  
oxyuriasis**





# Tapeworms (Cestodes)

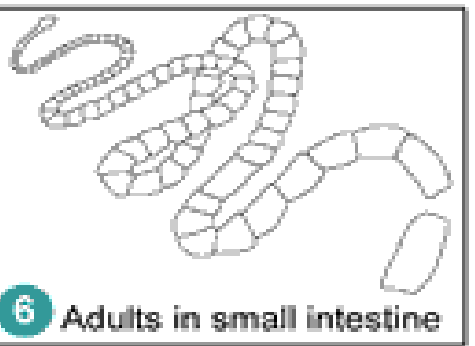
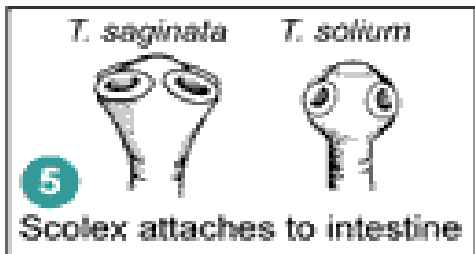
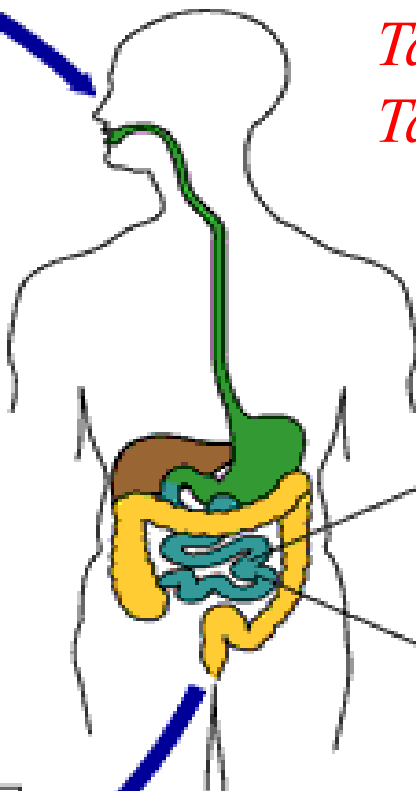
- **Man as final host**
- *Taenia saginata*
- *Taenia solium*
- *Diphyllobotrium latum*, *D. pacificum*
- *Hymenolepsis nana*
  
- **Animal as final host**
- *Echinococcus granulosus*
- *Echinococcus (Alveococcus) multilocularis*

**i** Oncospheres develop into cysticerci in muscle



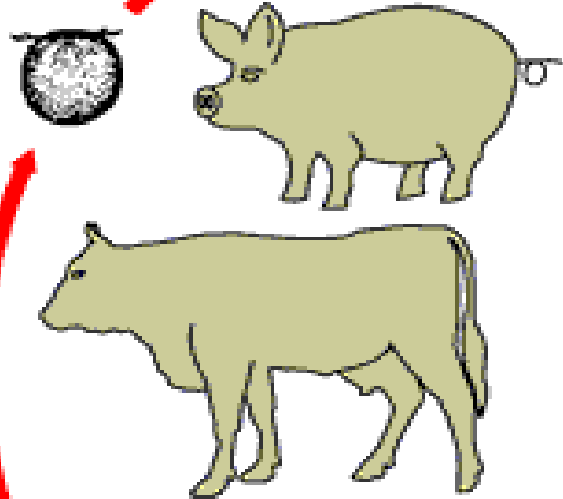
**4** Humans infected by ingesting raw or undercooked infected meat

*Taenia saginata*  
*Taenia solium*



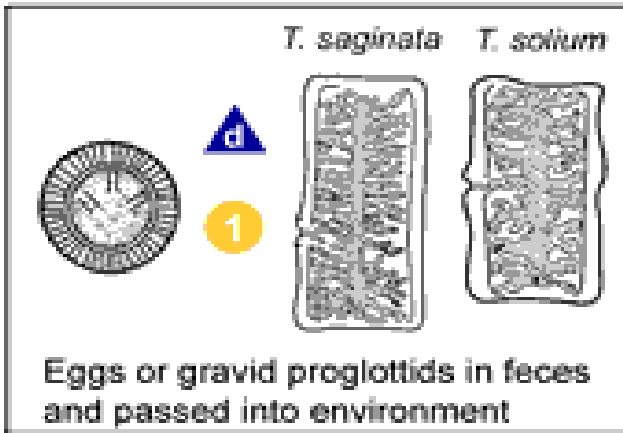
Oncospheres hatch, penetrate intestinal wall, and circulate to musculature

**3**



**2**

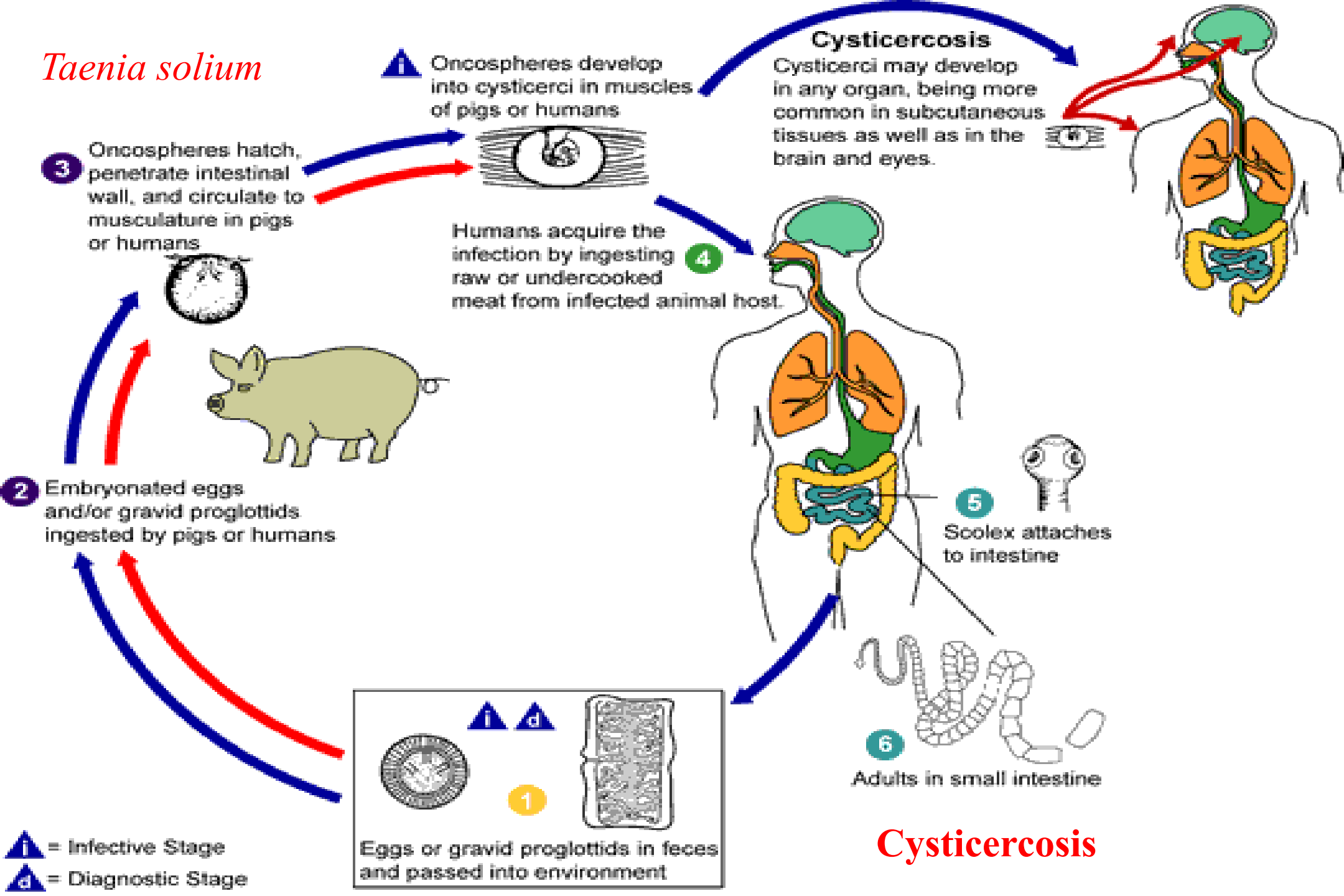
Cattle (*T. saginata*) and pigs (*T. solium*) become infected by ingesting vegetation contaminated by eggs or gravid proglottids



**i** = Infective Stage  
**d** = Diagnostic Stage

# Taeniosis

# Taenia solium



*Taenia solium*



*Taenia saginata*

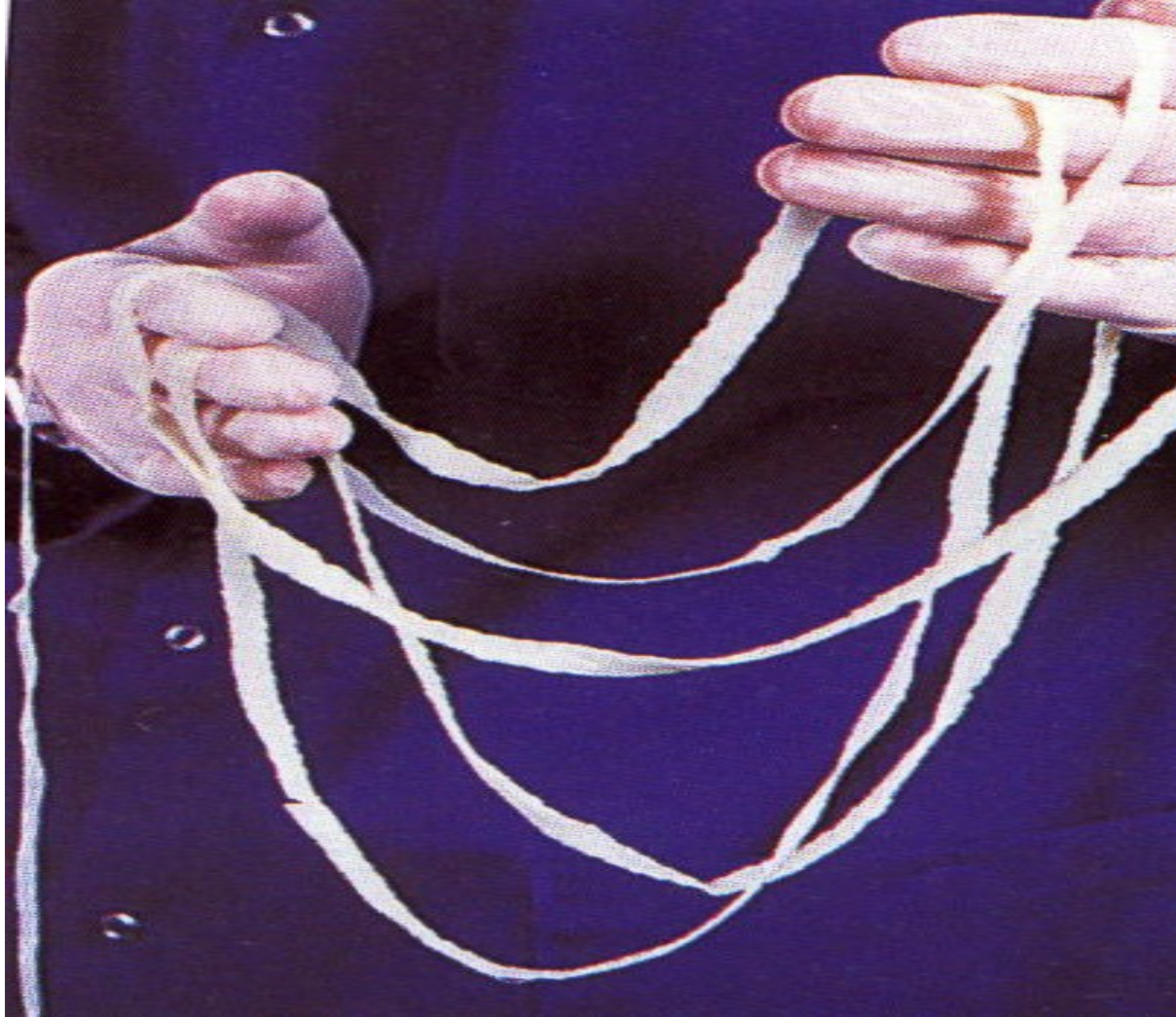




*Taenia solium*



*Taenia saginata*





## Cysticercosis (pig)



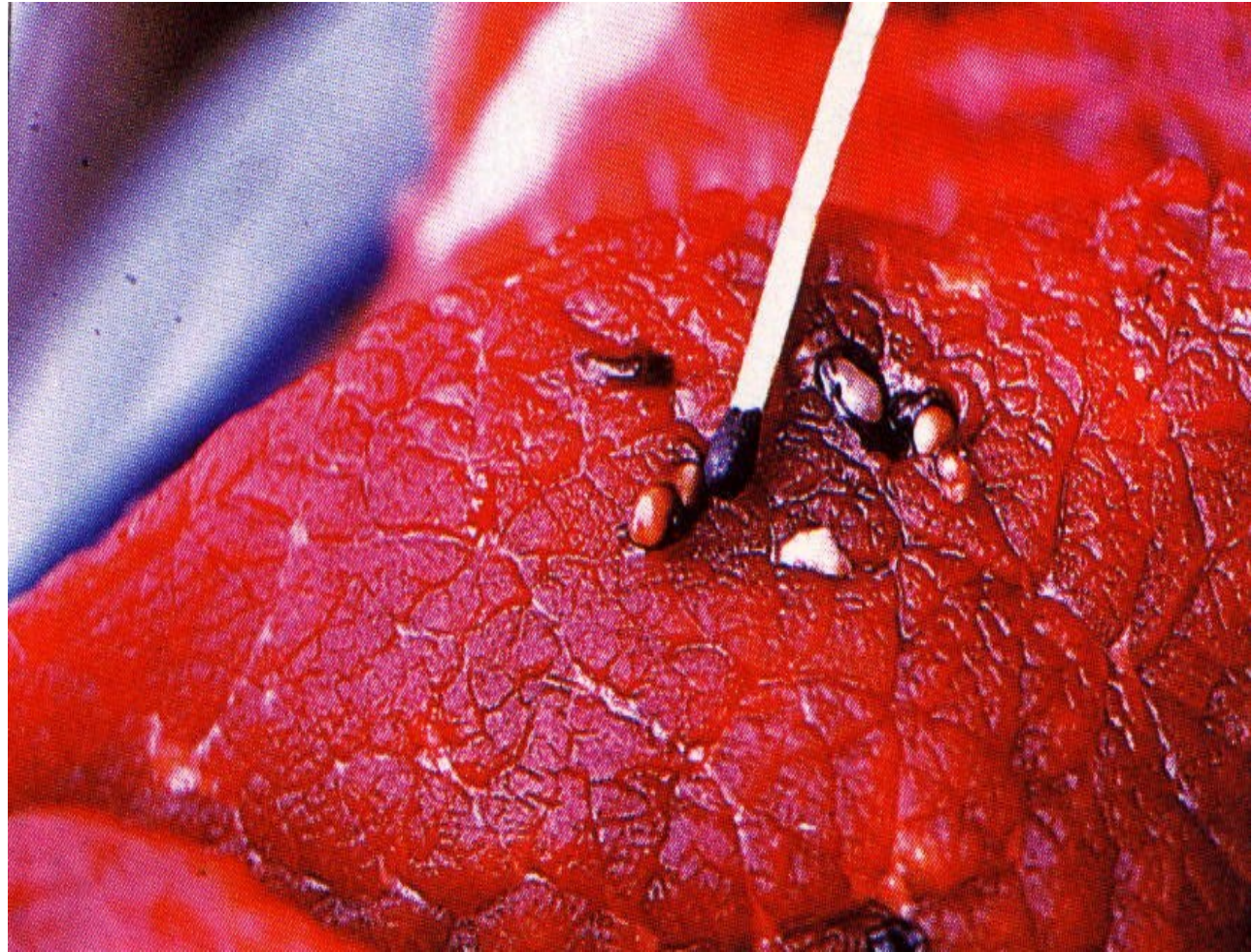


## Cysticercosis (man)



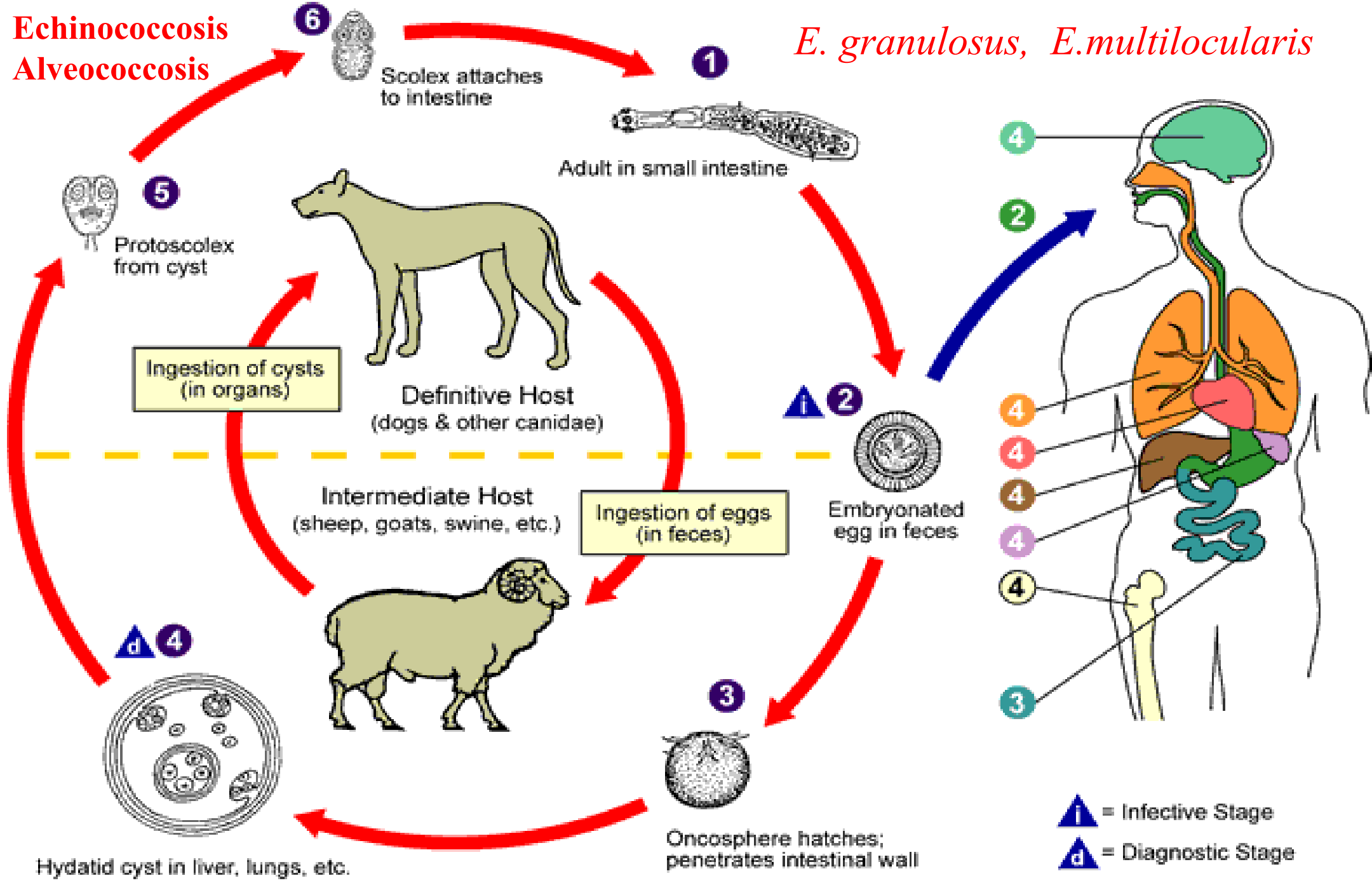


## Cysticercosis (cow)



**Echinococcosis**  
**Alveococcosis**

*E. granulosus, E. multilocularis*



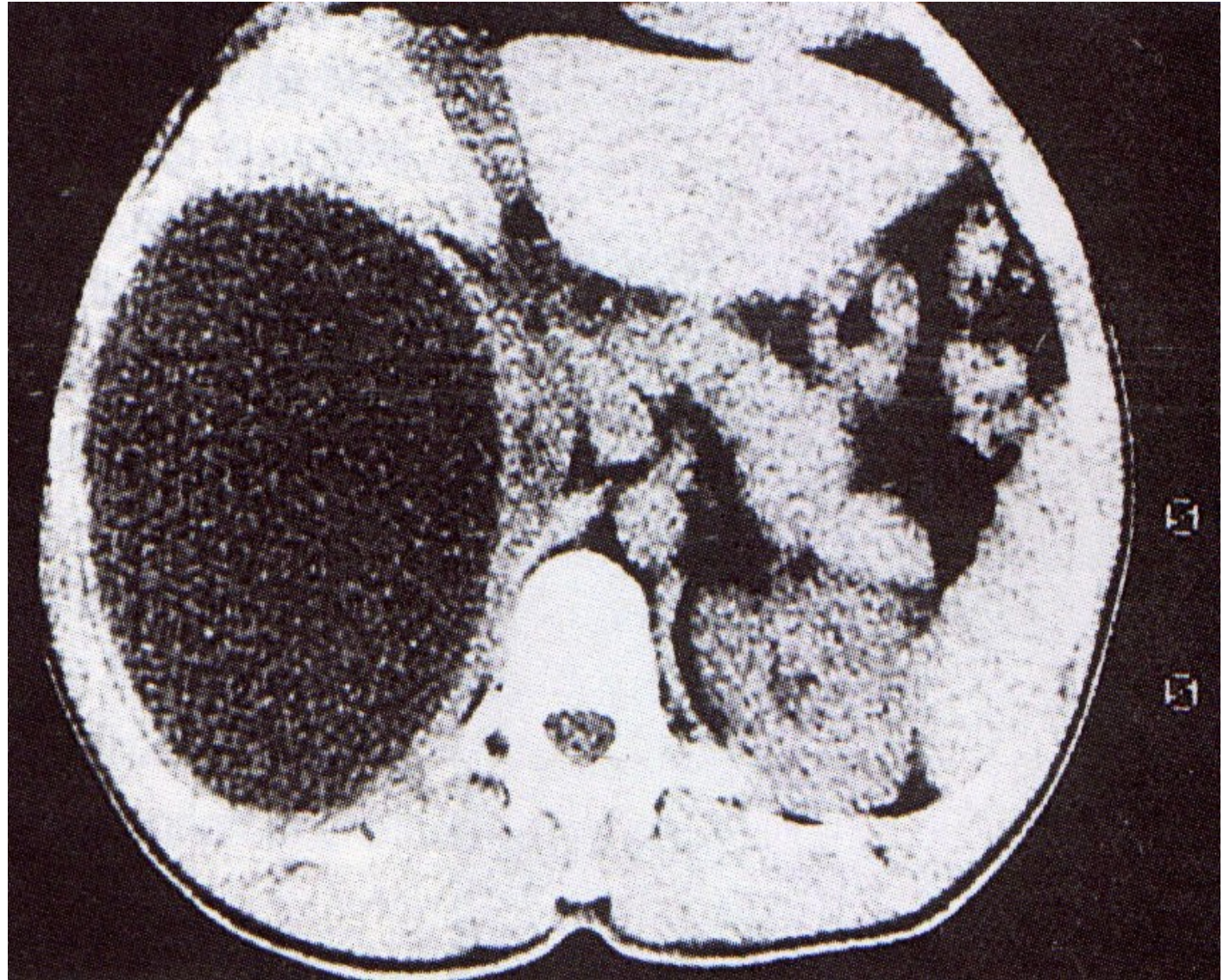


*Echinococcus*  
*granulosus*  
(dog)





*Echinococcus  
granulosus* – liver cysts  
(man)





*Echinococcus  
granulosus* – liver cysts  
(man)













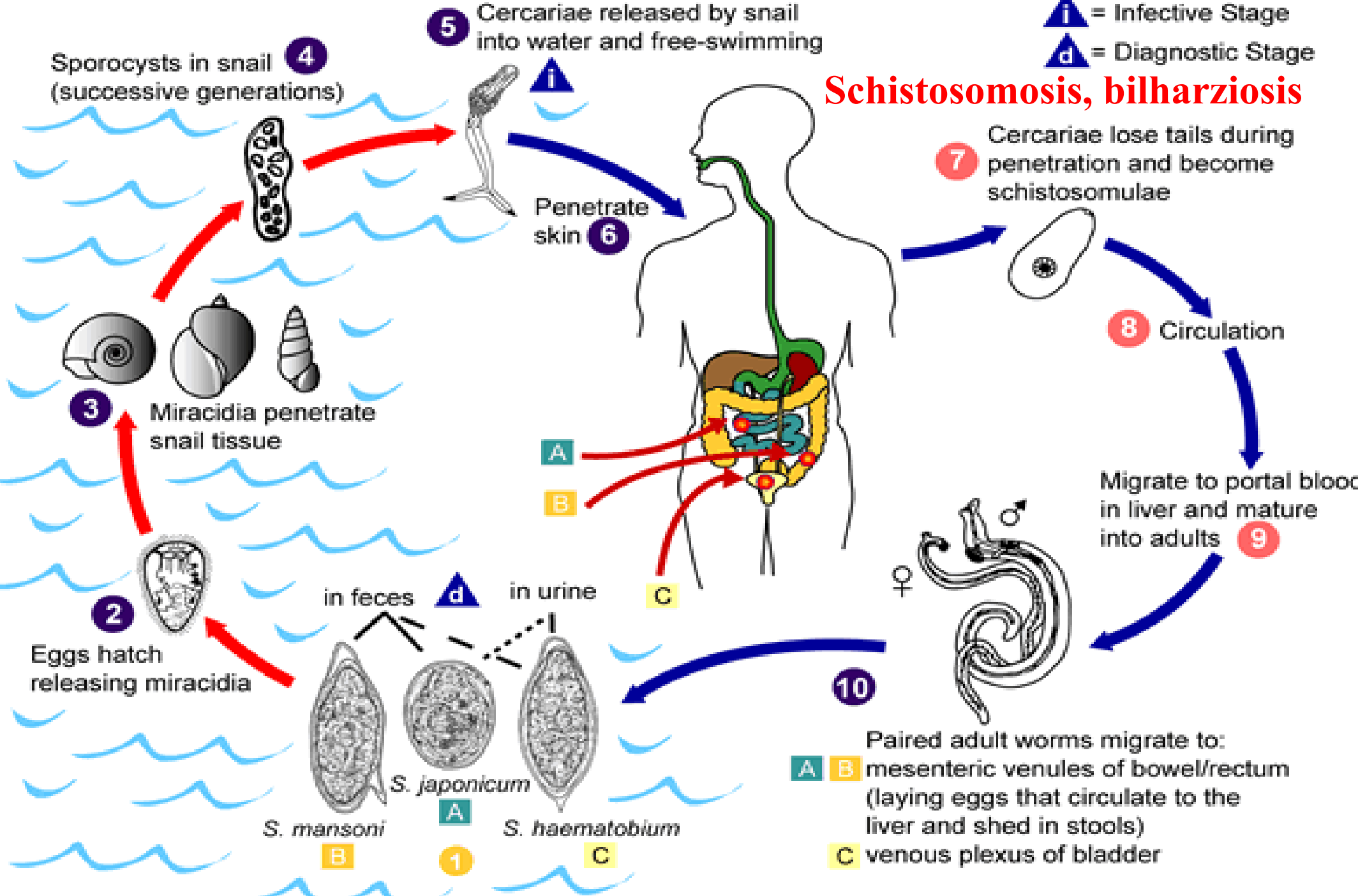
## Flukes (Trematodes)

- schistosomiasis (bilharsiasis)
- *S. hematobium*
- *S. intestinalis (mansoni)*
- *S. japonicum*
- *S. mekongi*



**i** = Infective Stage  
**d** = Diagnostic Stage

# Schistosomosis, bilharziosis







# تنبیه هام **ATTENTION**

عزيزي الزائر :  
تحتوي مياه هذه العين على القواقع الناقله لمرض  
البلهارسيا ، وعليه يرجى عدم النزول الى الماء  
لاى غرض كان ومنعا لانتقال المرض . شاكرين لكم تعاونكم

DEAR VISITOR:

THIS SPRING WATER HARBORS THE SNAILS WHICH CAN  
TRANSMIT THE DISEASE BILHARZIASIS. THEREFORE, GOING  
DOWN TO THE WATER FOR ANY REASON IS STRONGLY  
PROHIBITED TO CONTROL THE INFECTION WITH BILHARZIASIS.  
THANKING YOUR COOPERATION.









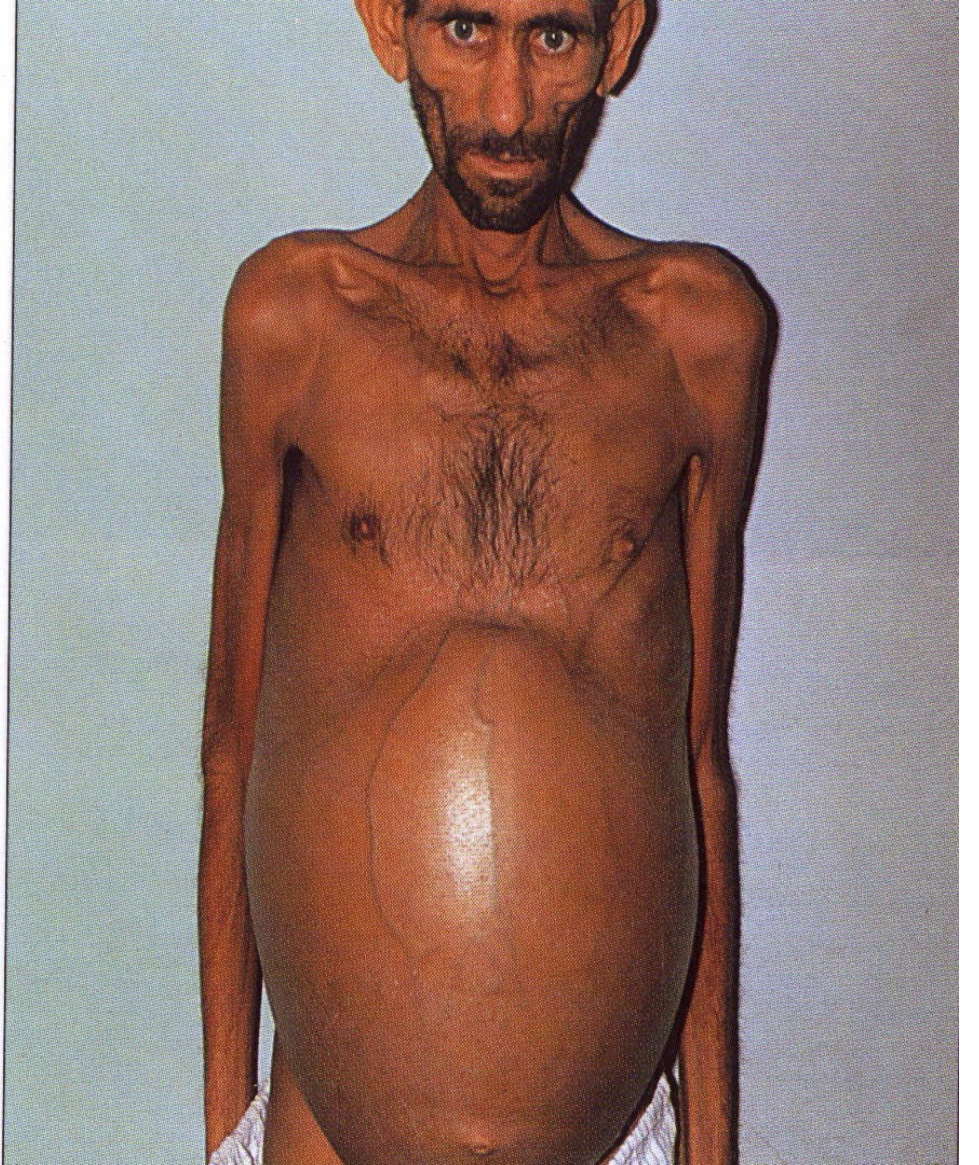
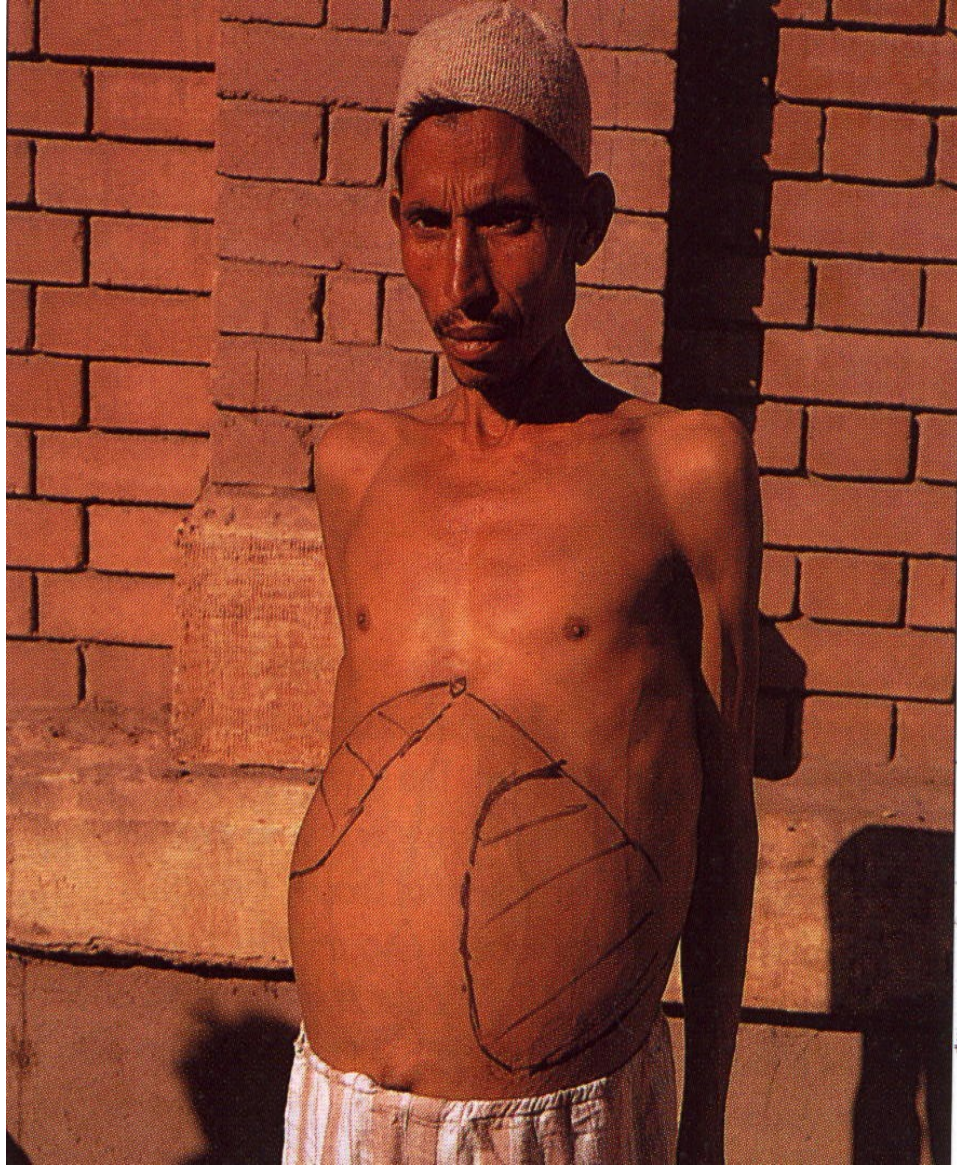


















# Fungal GI infections

- about all **candidiasis**
- different members of *Candida* sp. (mostly *C.albicans*)
- mouth cavity, oesophagus, anorectal
- mostly IS patients
- fluconazol, itraconazol ketoconazol, amphotericin





***Thank you for your attention!***

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