

# Parasitic gastrointestinal infections

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Klinika infekčních chorob LF MU a FN Brno

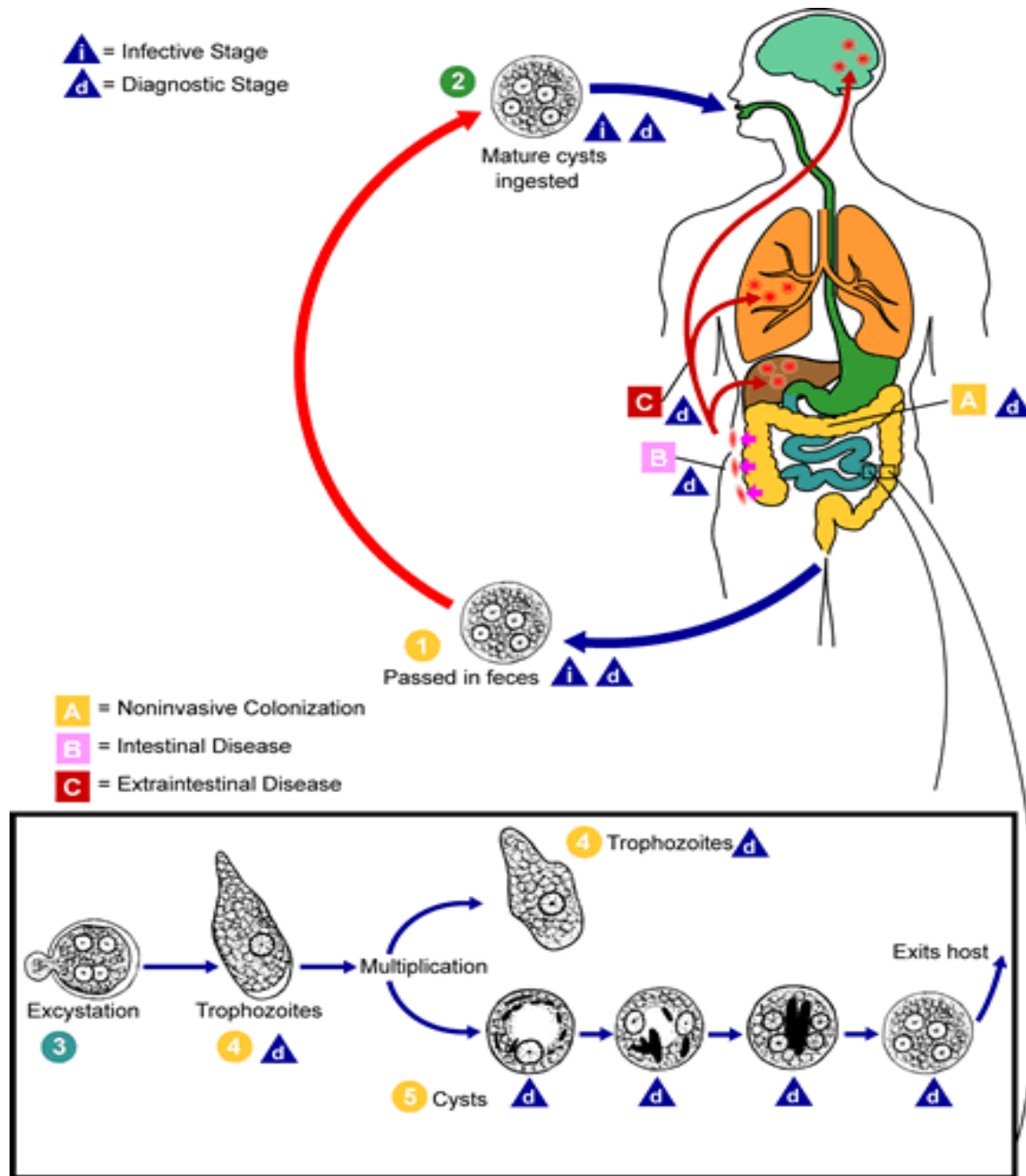
## Parasitic infection of GI tract

- protozoal
- helminthic
- fungal

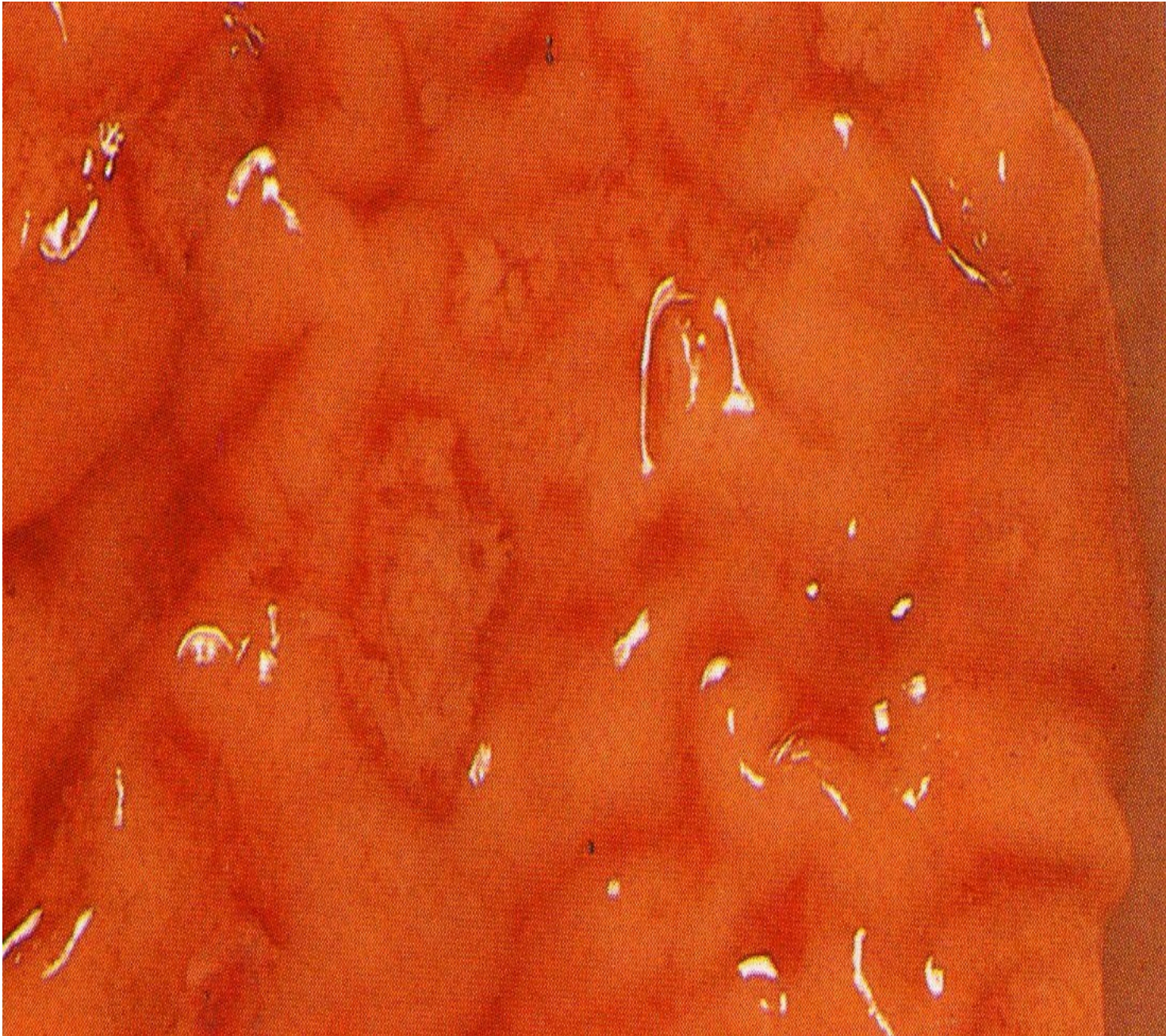
# Protozoal infections

- **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



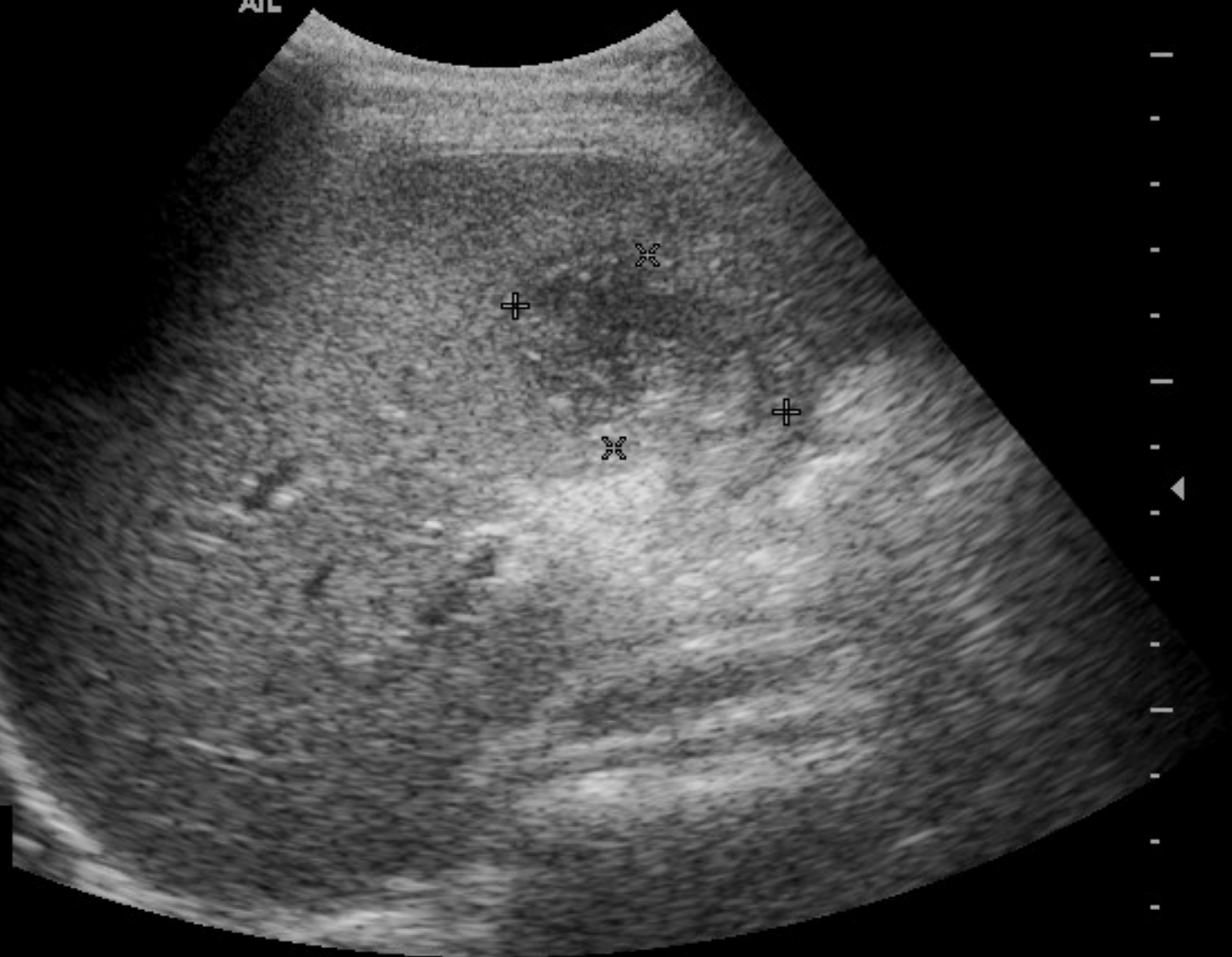


Map 3  
150dB/C3  
Persist Med  
Fr Rate Med  
2D Opt:Gen

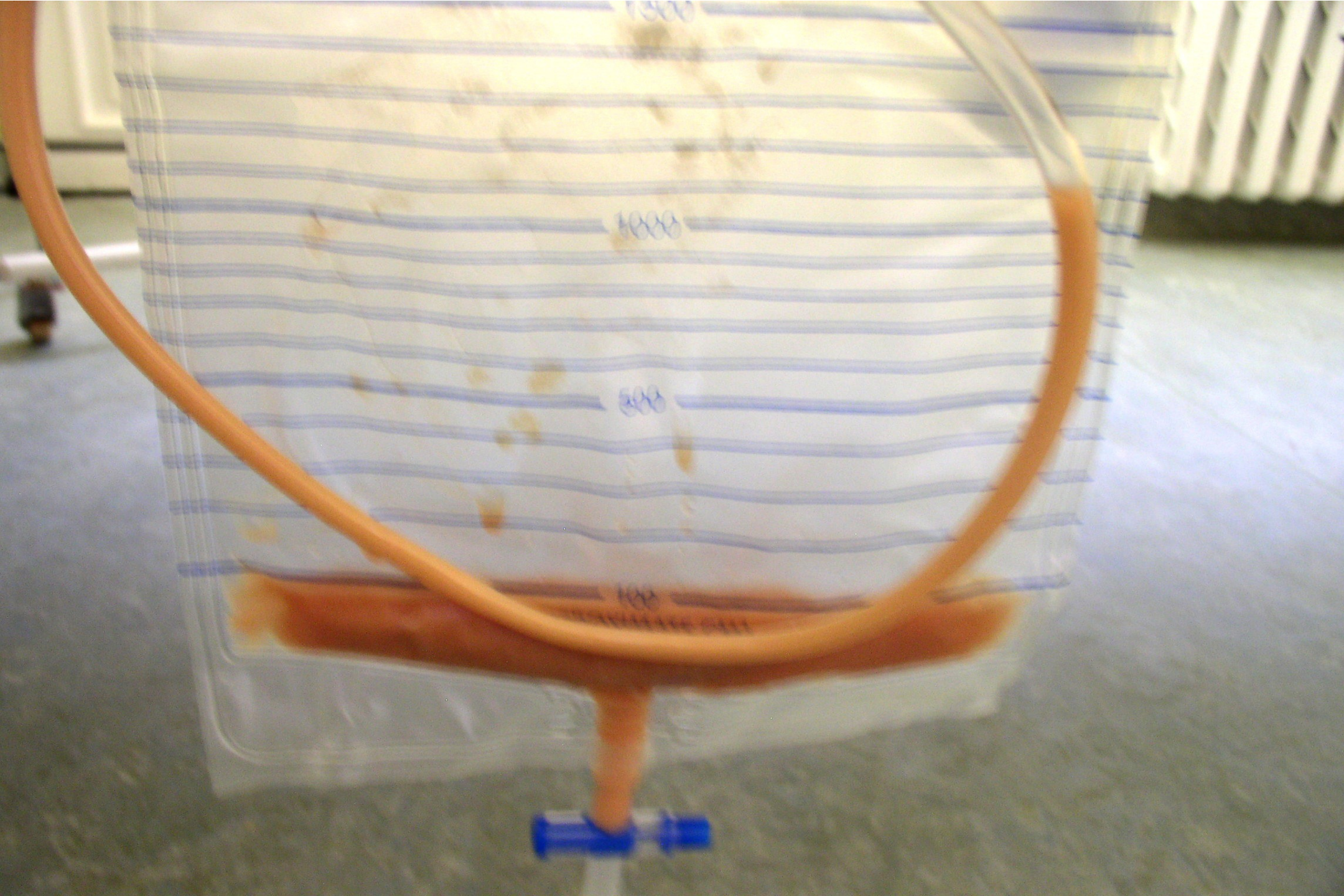
ATL

+ 4.23cm  
× 2.98cm

US – day 5





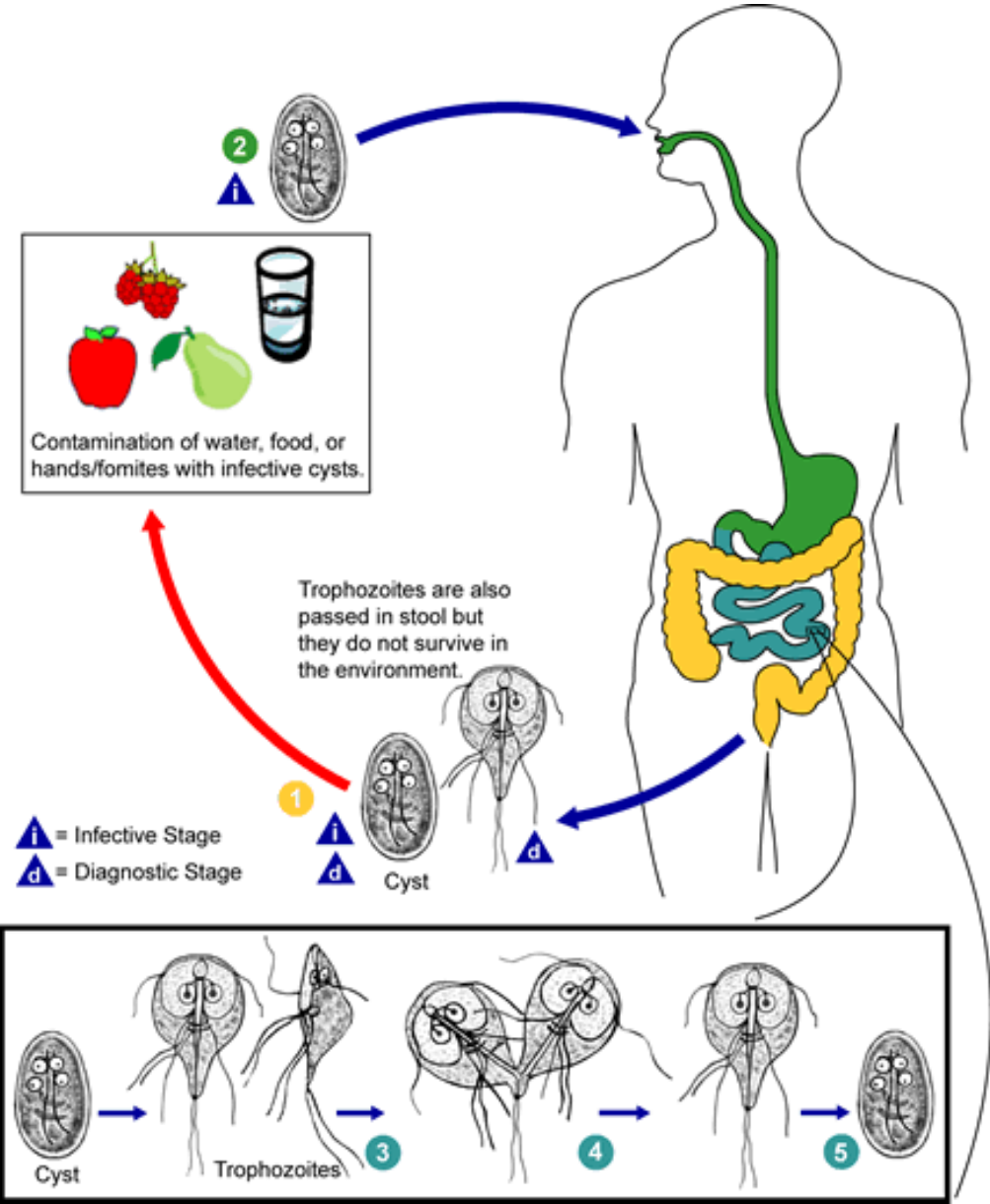




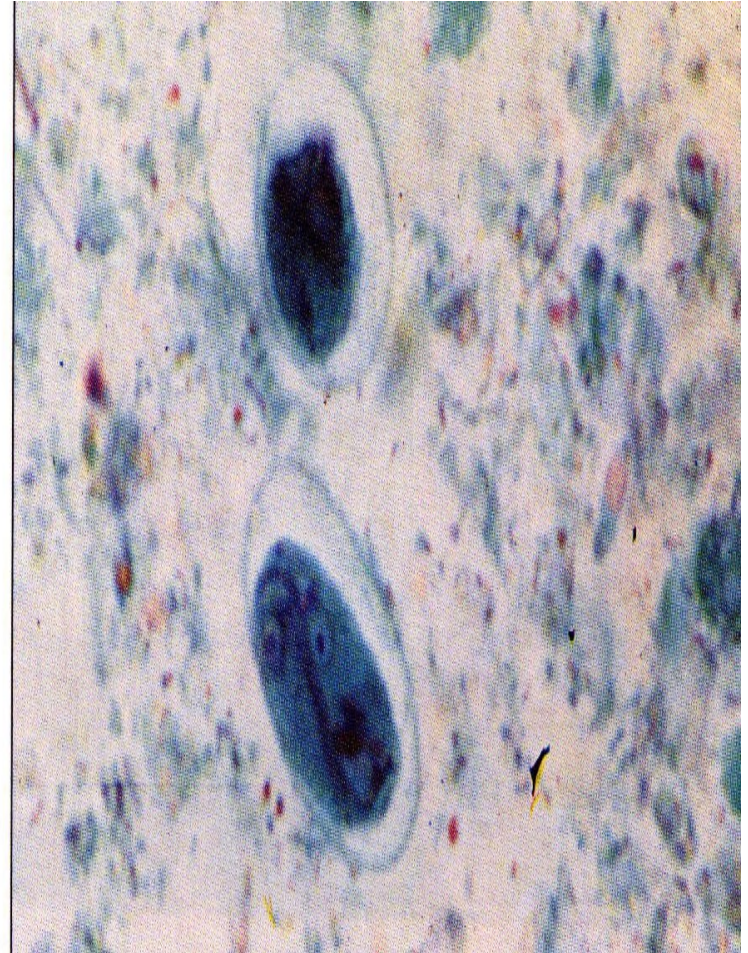
Amebic abscess –  
transcutaneous puncture



# Lambliasis, girardiasis



Lamblasis  
microscopy



Lambliasis  
scan





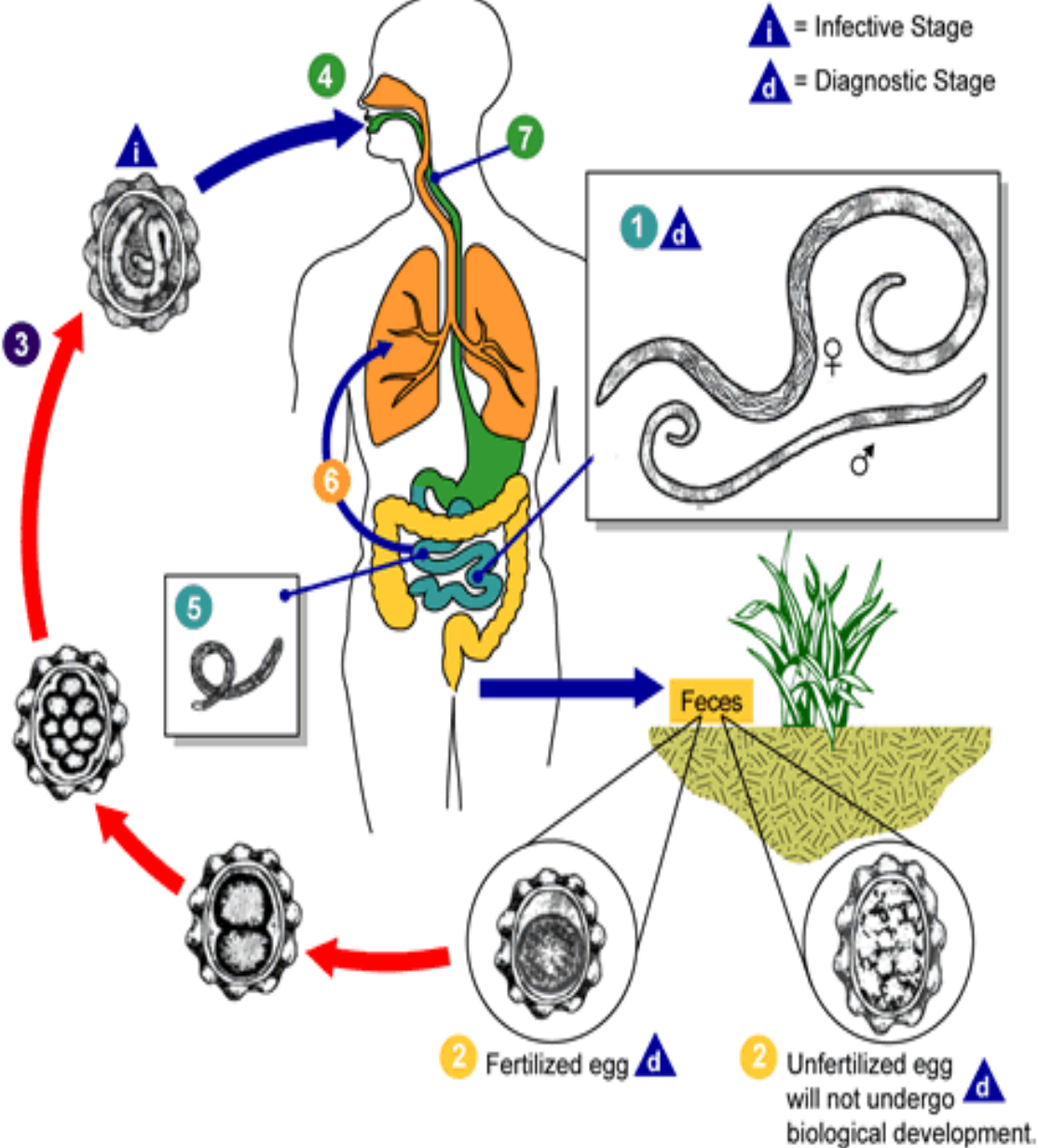
# Helmintic GI infections

- Roundworms (Nematodes) - ascariasis, enterobiasis=oxyuriasis, trichuriasis
- Tapeworms (Cestodes) - teniasis, diphylobotriosis, hymenolepsiosis, echinococcosis, alveococcosis
- Flukes (Trematodes) - schistosomiasis

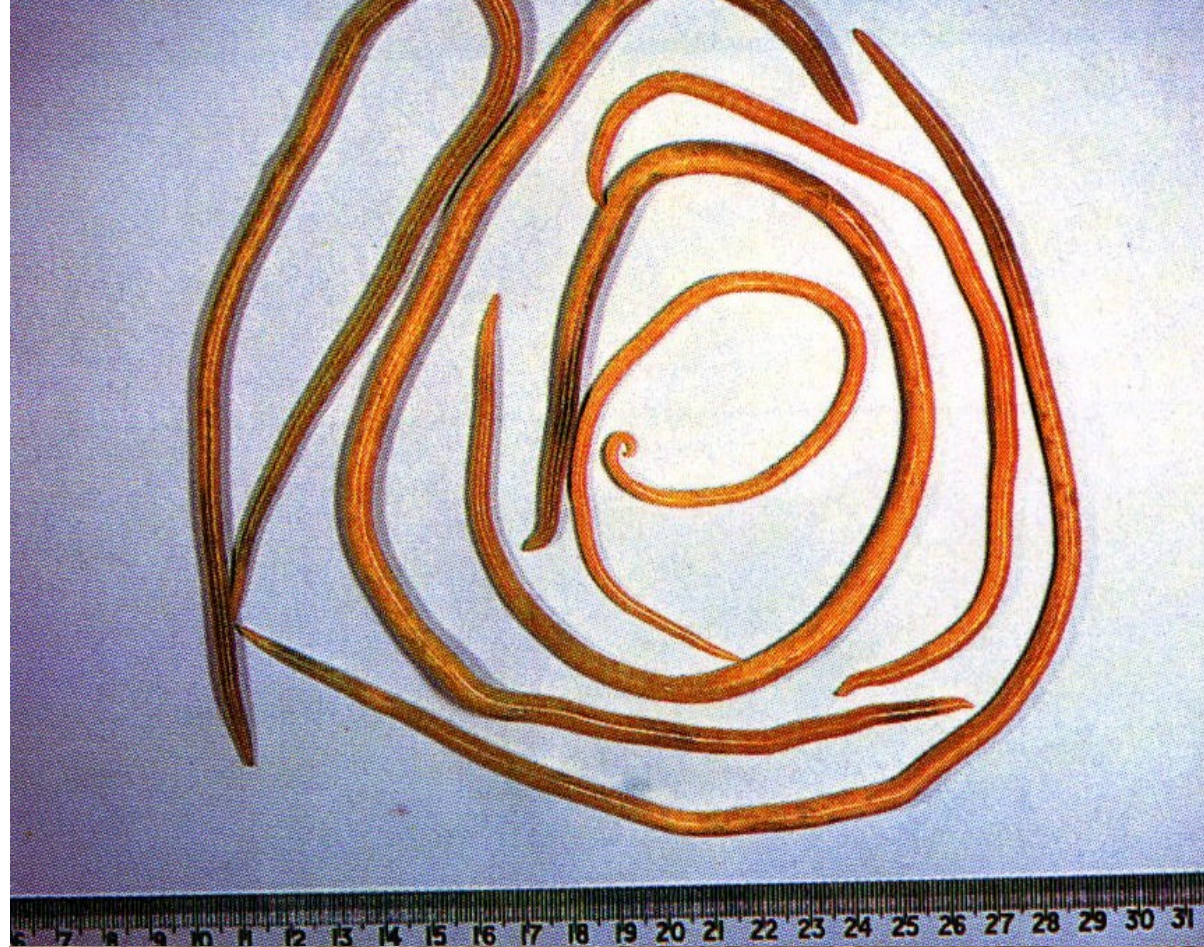
# Roundworms (Nematodes)

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

# Ascariosis



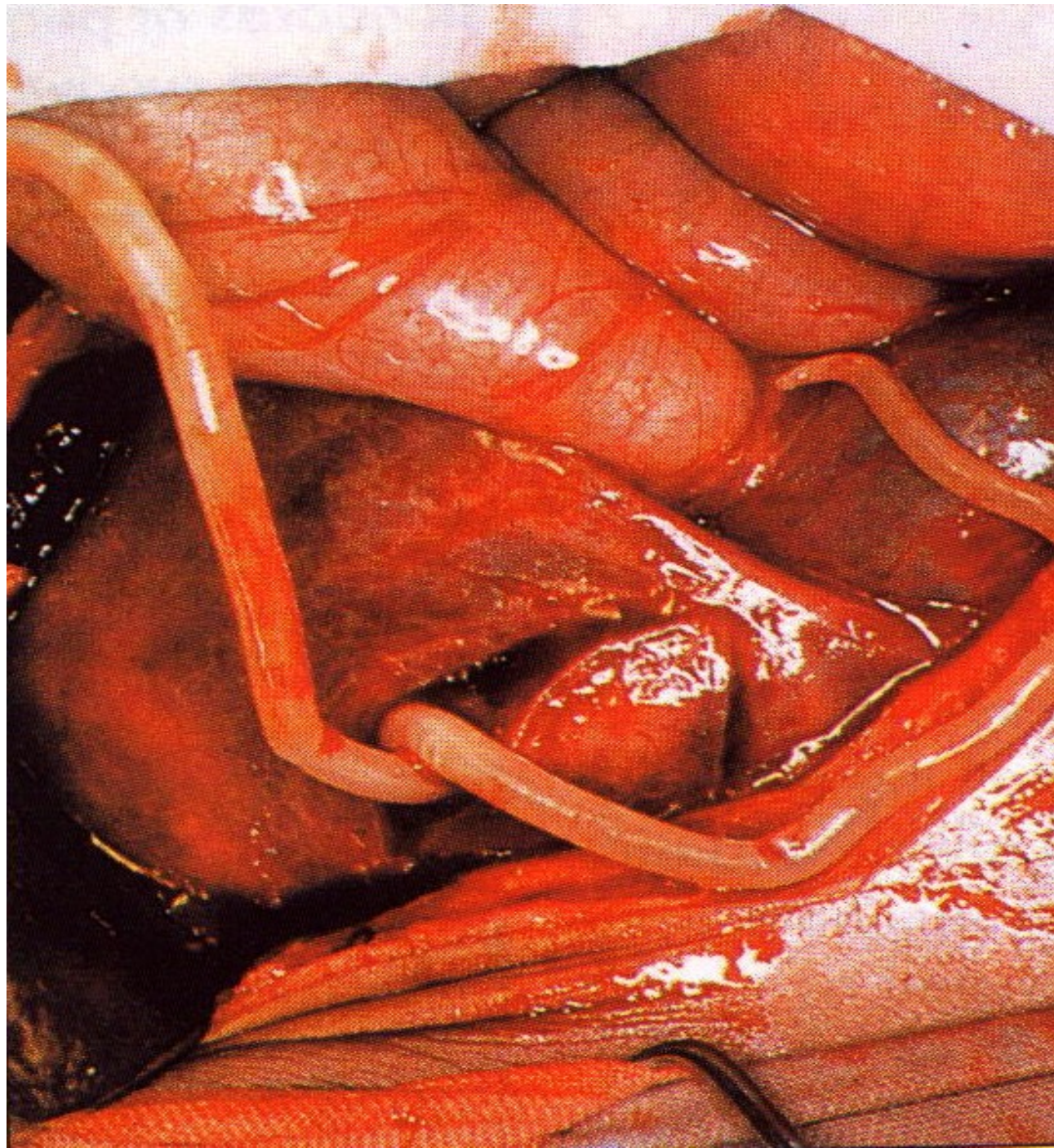
*Ascaris lubricoides*



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

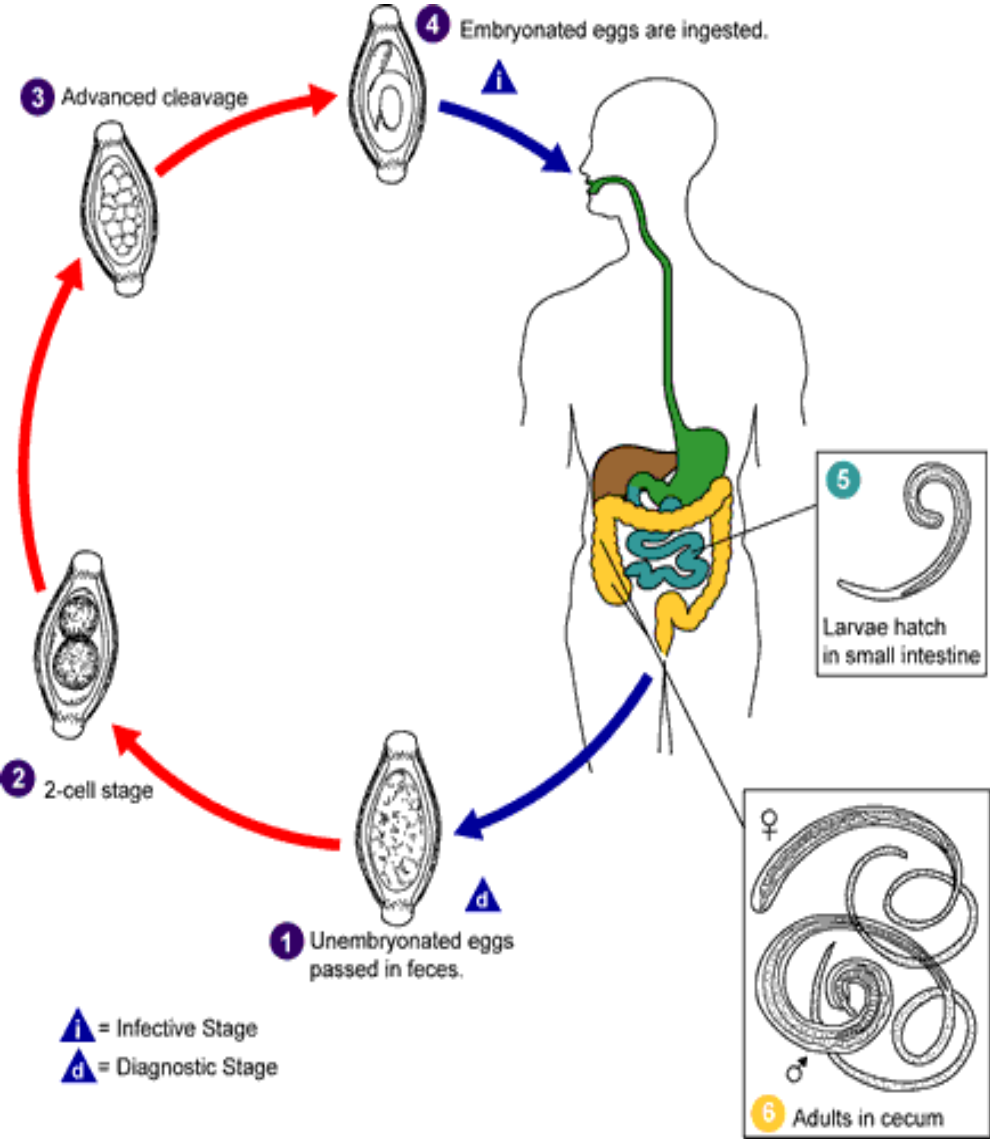




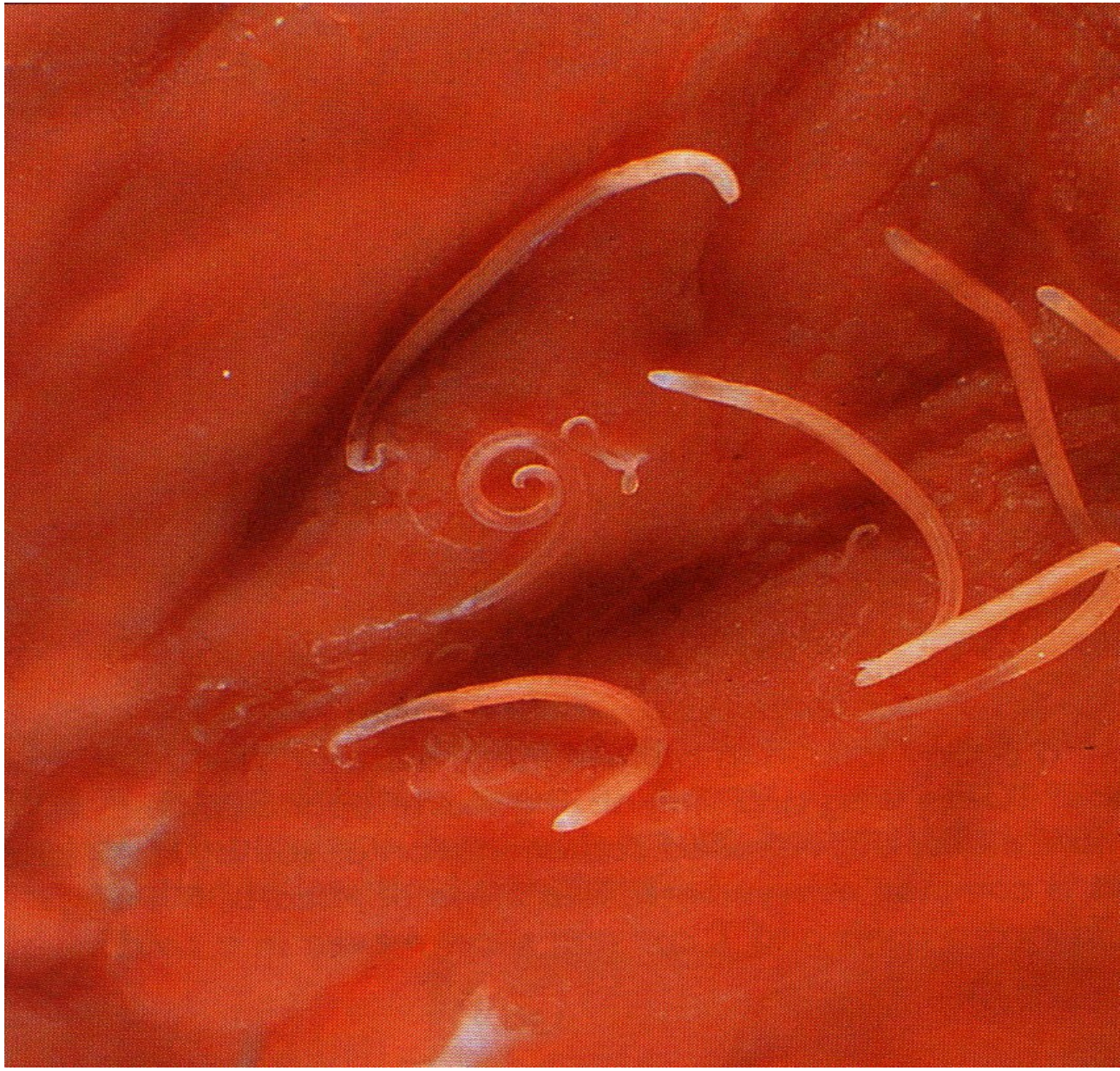


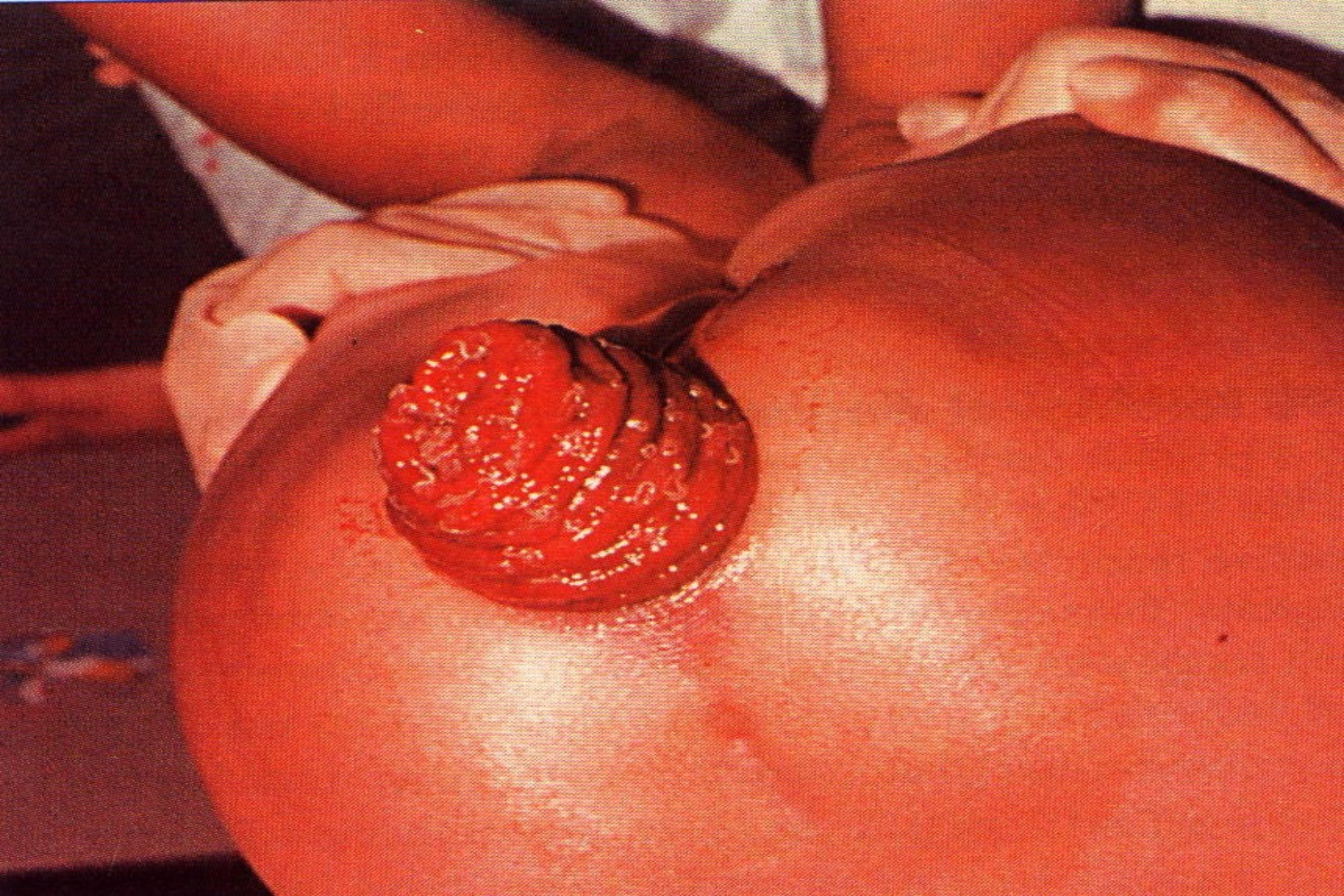


# Trichuriasis

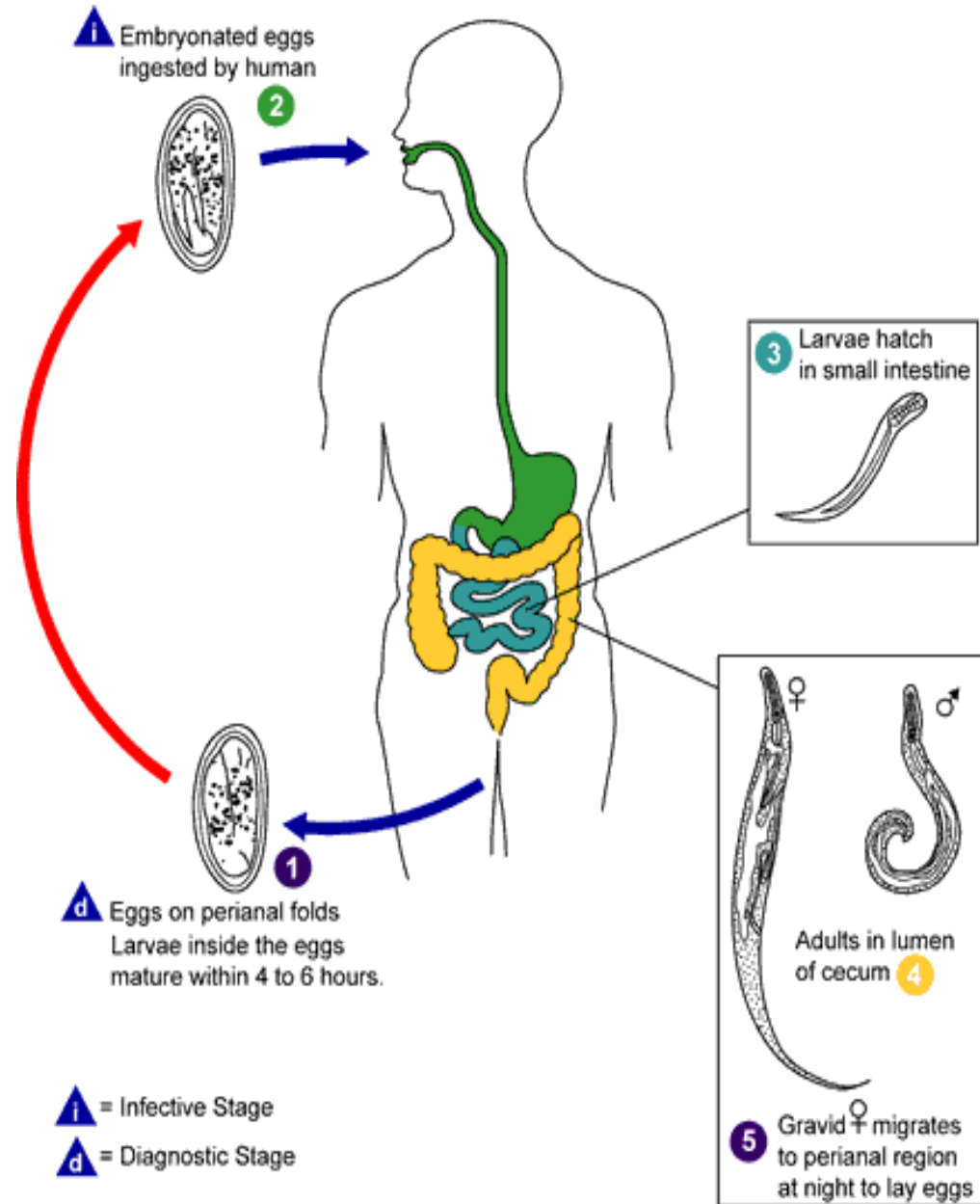




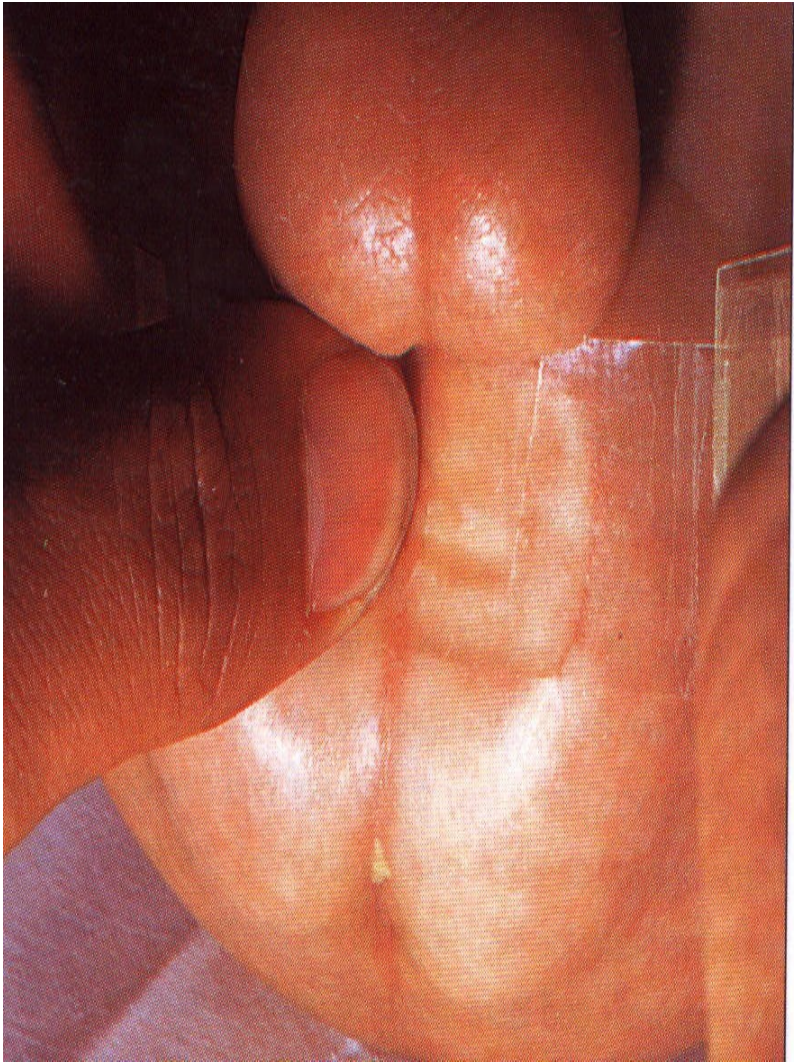




# Enterobiosis, oxyuriasis



**Enterobios  
oxyuriosis**



# Tapeworms (Cestodes)

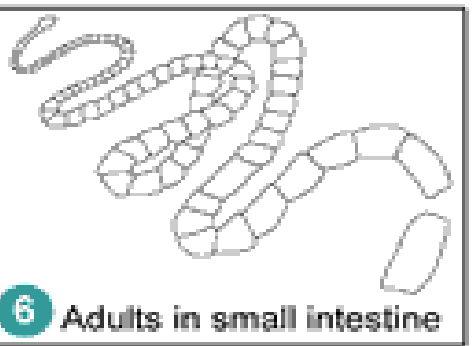
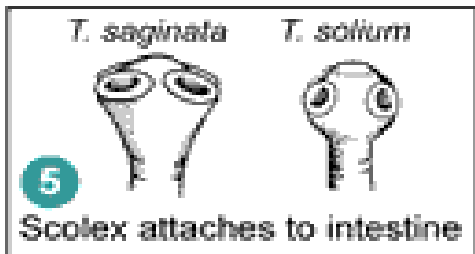
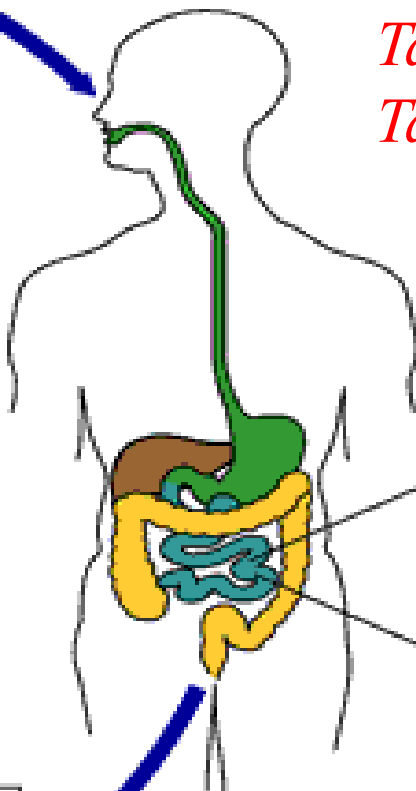
- **Man as final host**
- *Taenia saginata*
- *Taenia solium*
- *Diphyllobotrium latum*, *D. pacificum*
- *Hymenolepsis nana*
  
- **Animal as final host**
- *Echinococcus granulosus*
- *Echinococcus (Alveococcus) multilocularis*

**i** Oncospheres develop into cysticerci in muscle



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

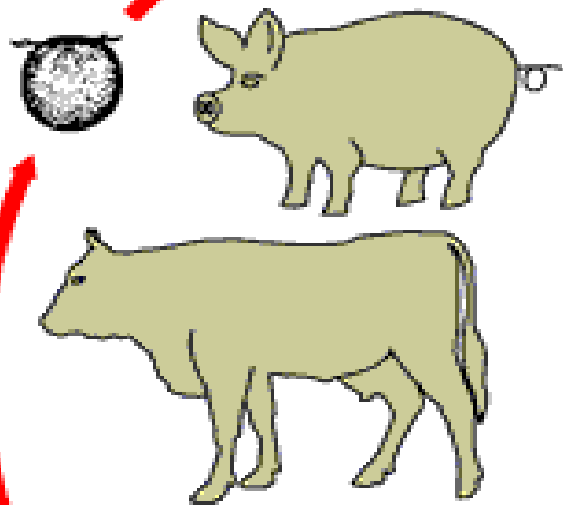
*Taenia saginata*  
*Taenia solium*



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

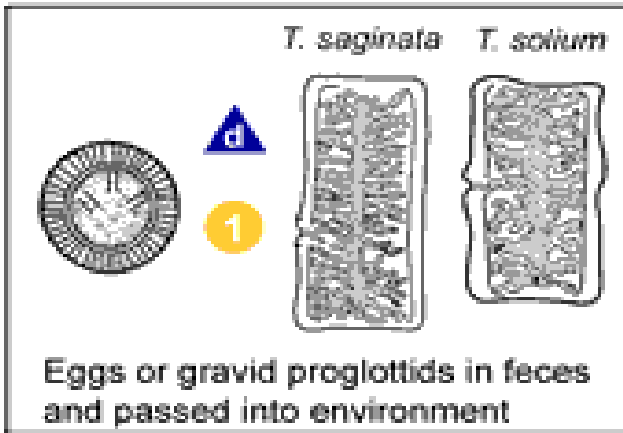
Oncospheres hatch, penetrate intestinal wall, and circulate to musculature

**3**



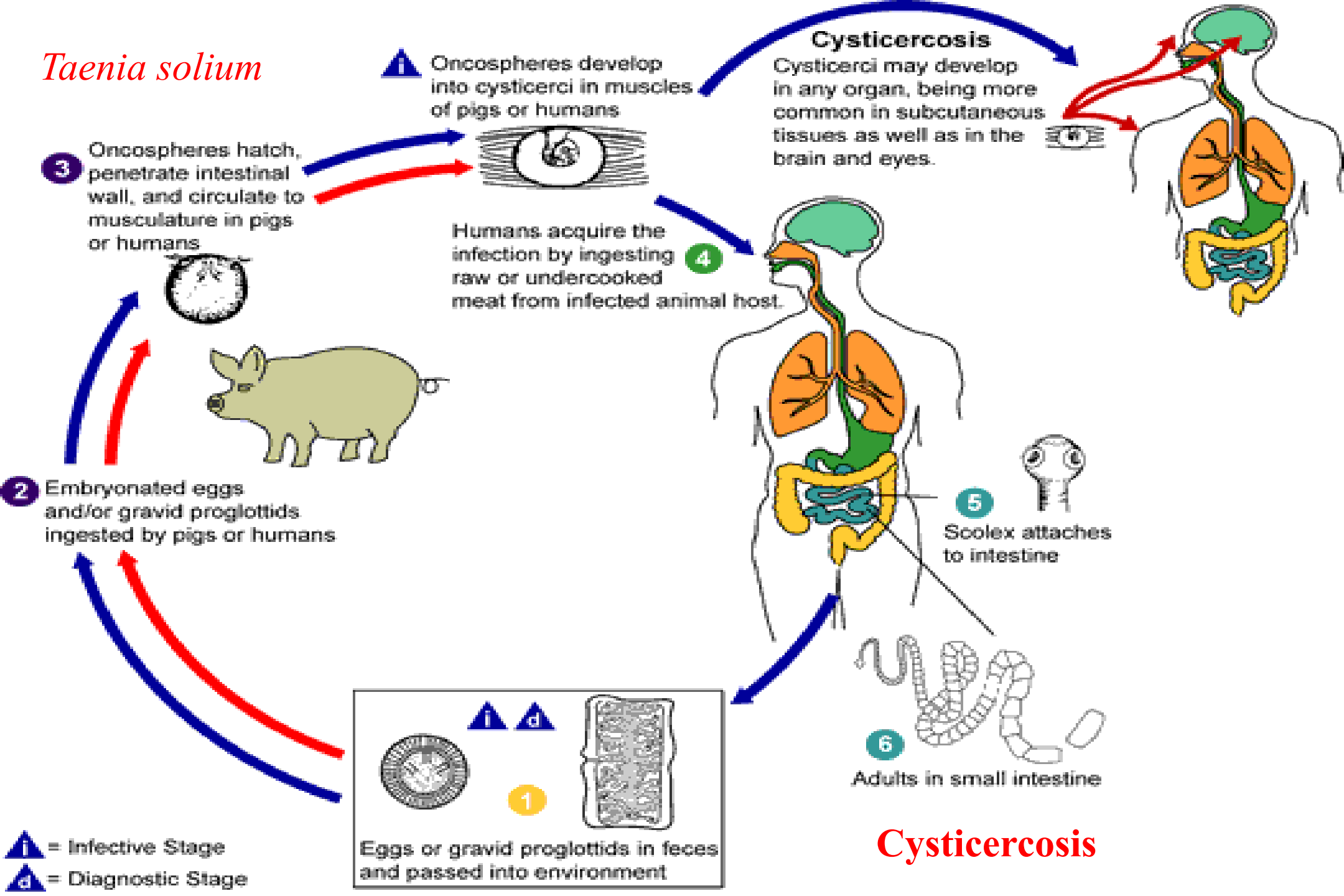
**2**

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

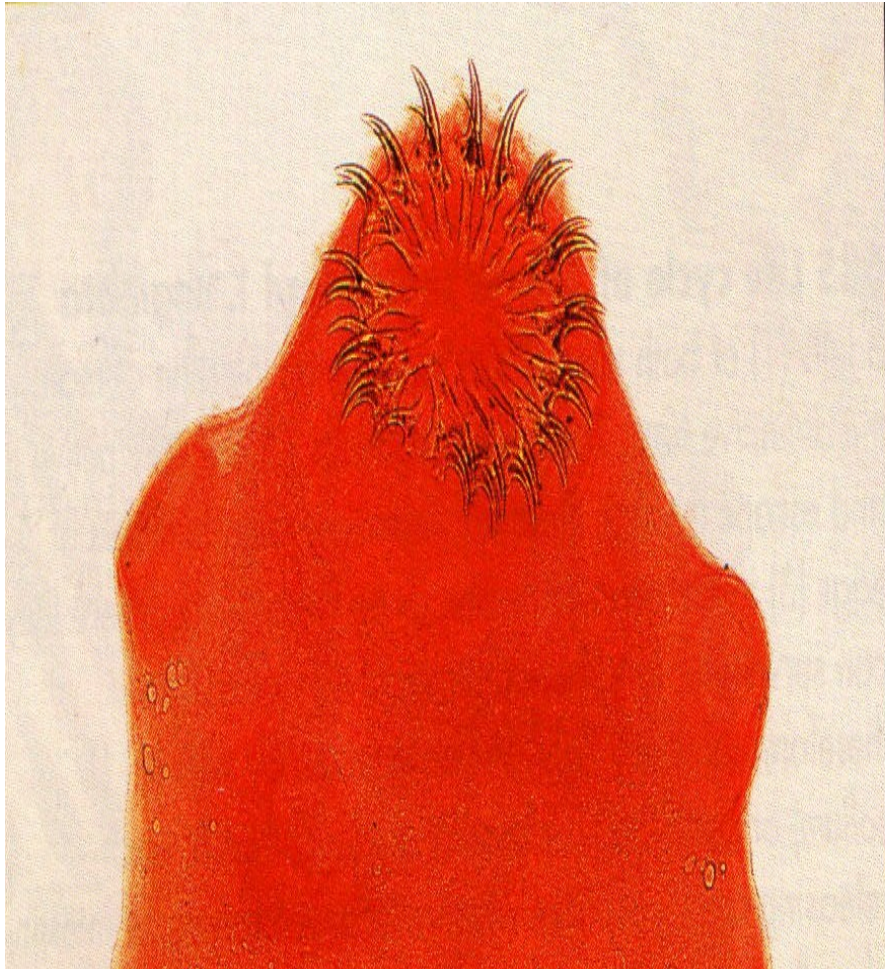


# Taeniosis

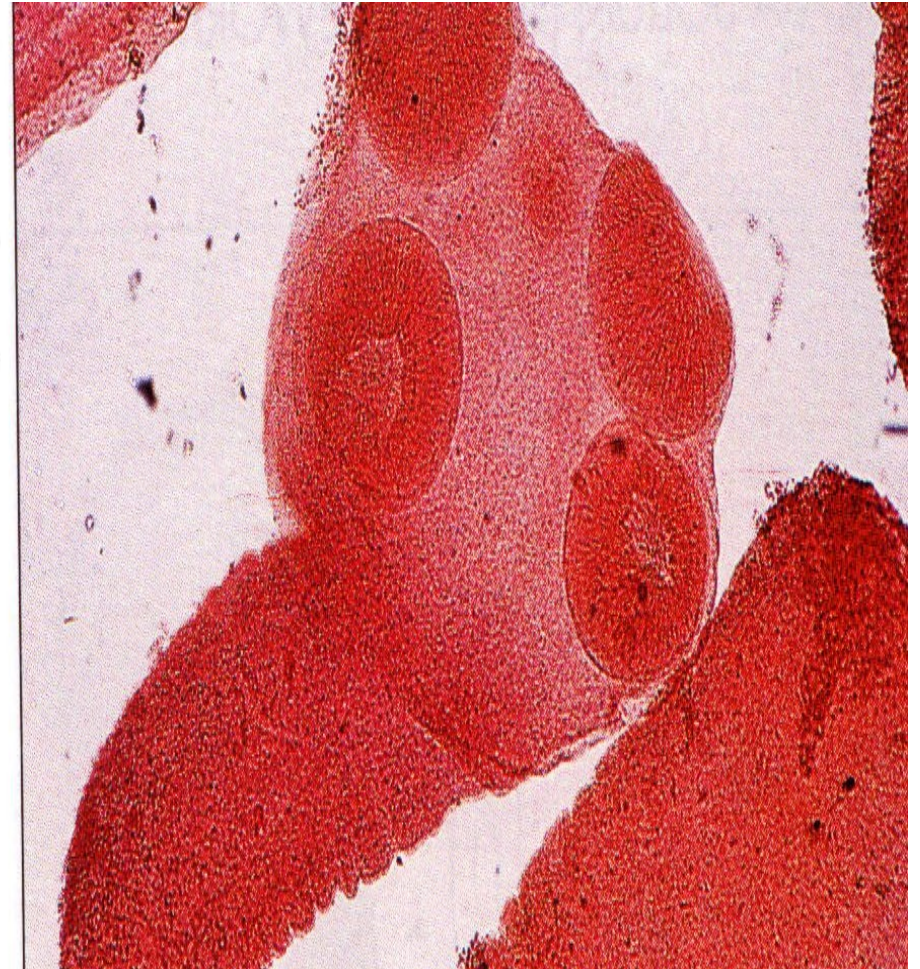
# Taenia solium



*Taenia solium*



*Taenia saginata*





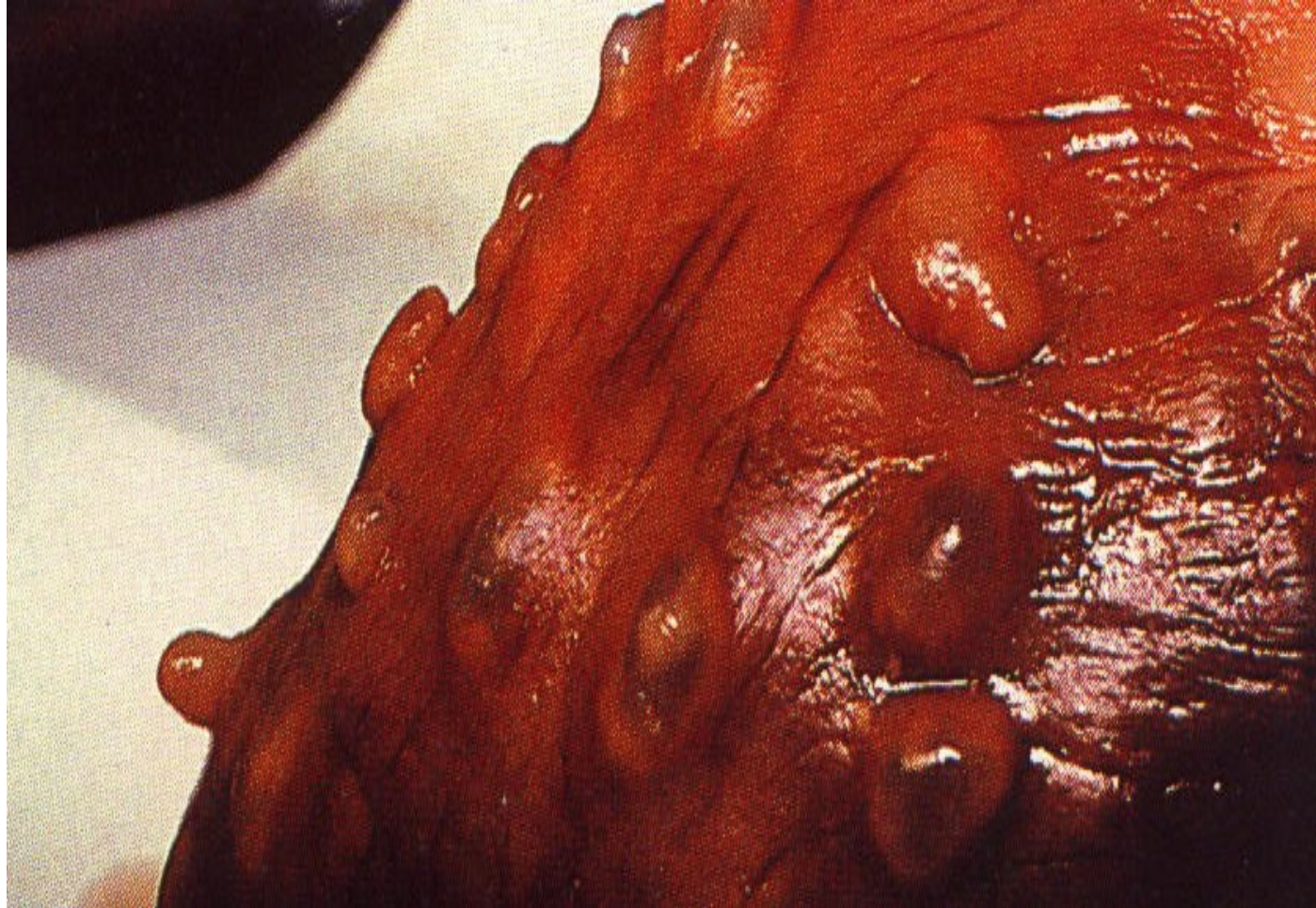
*Taenia solium*



*Taenia saginata*



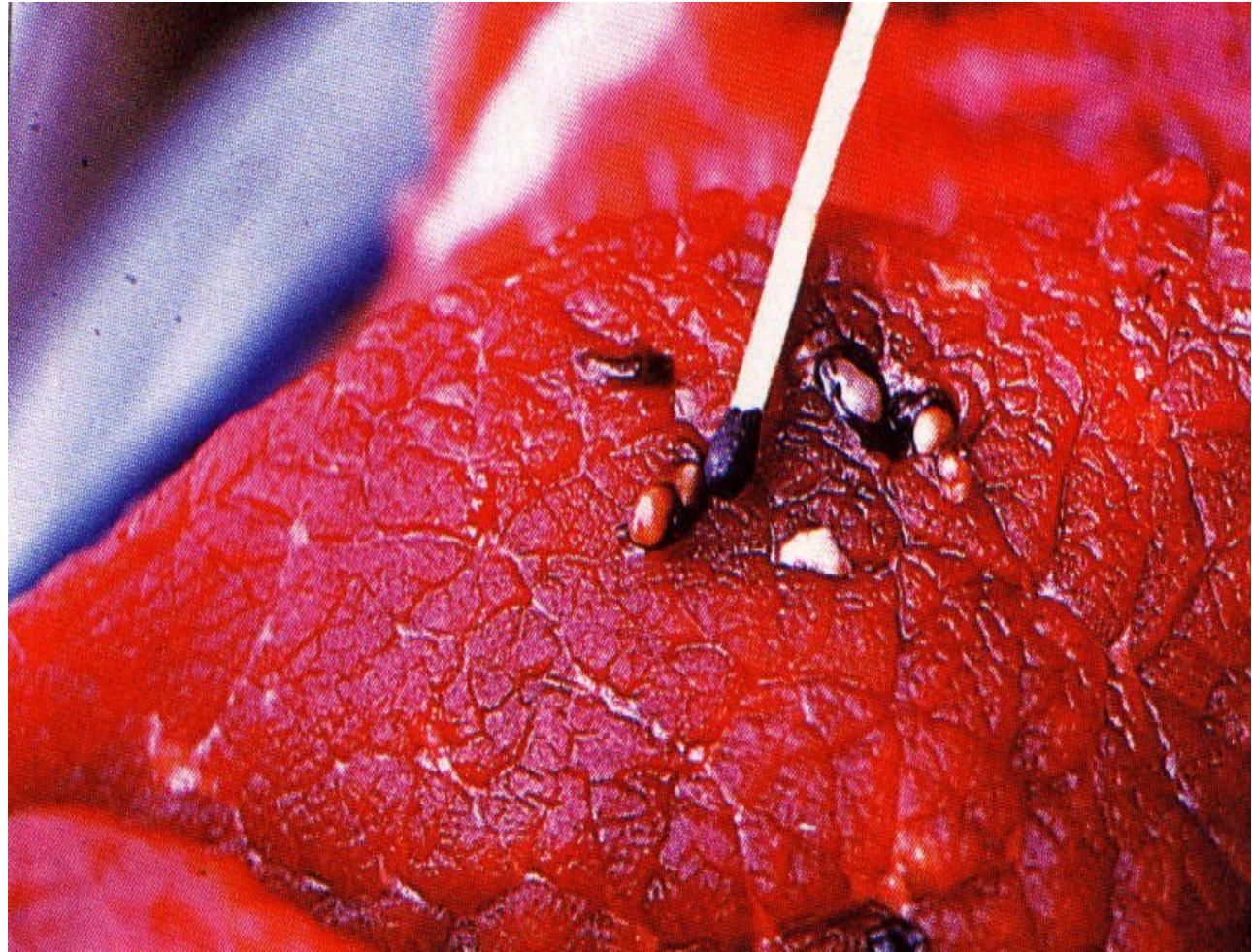
## Cysticercosis (pig)



## Cysticercosis (man)

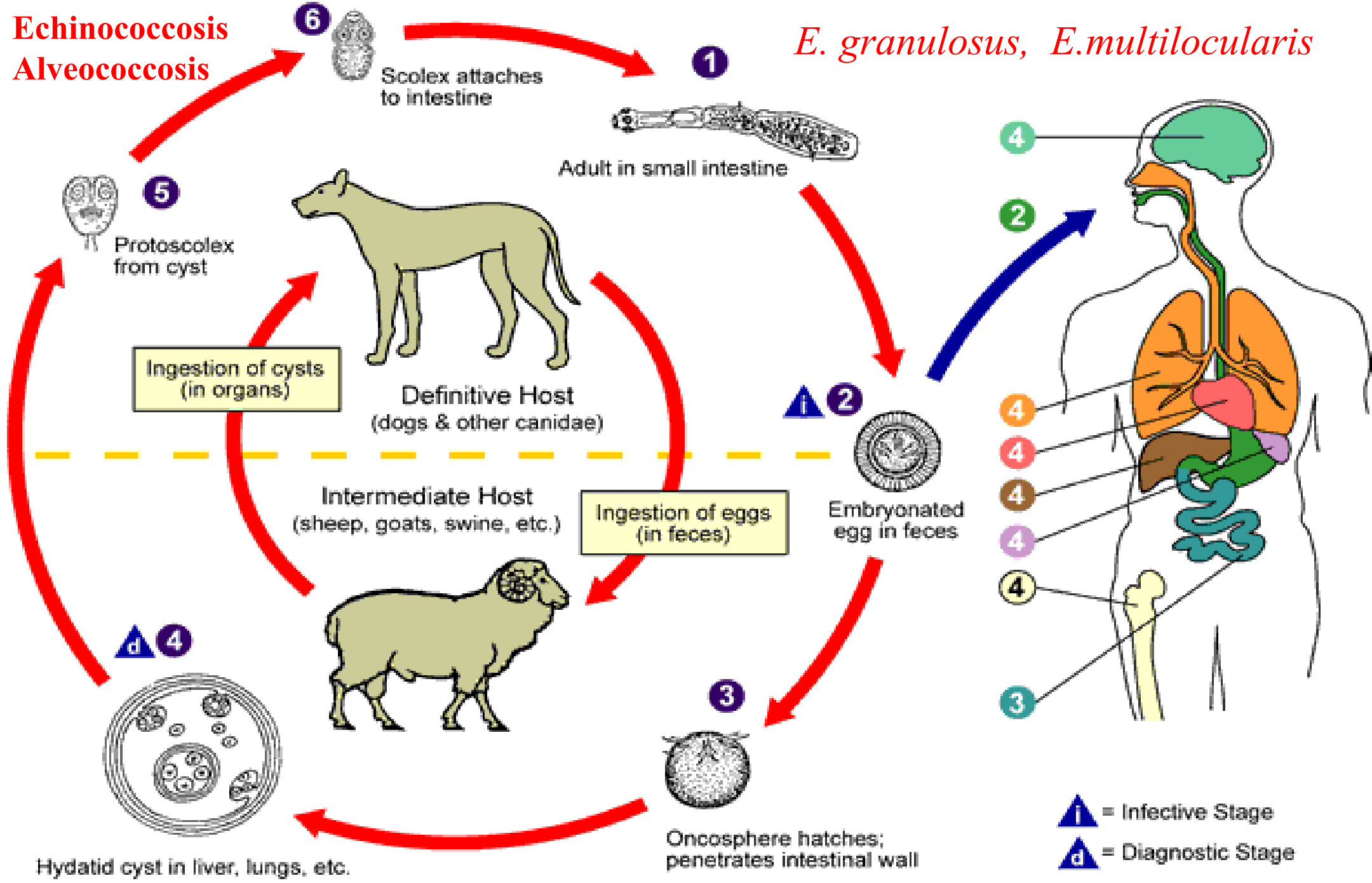


## Cysticercosis (cow)



**Echinococcosis**  
**Alveococcosis**

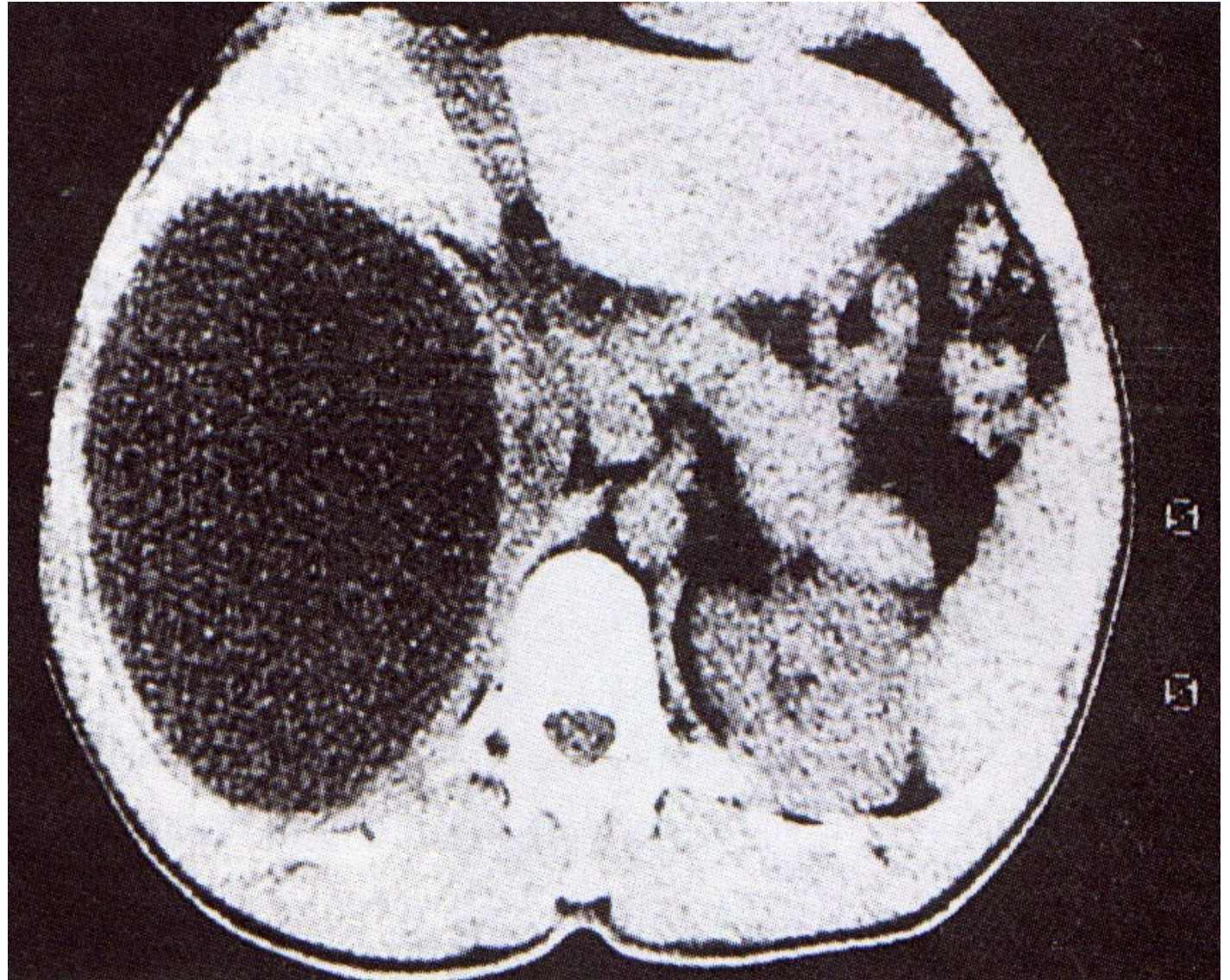
*E. granulosus, E. multilocularis*



*Echinococcus*  
*granulosus*  
(dog)



*Echinococcus  
granulosus* – liver cysts  
(man)





*Echinococcus  
granulosus* – liver cysts  
(man)







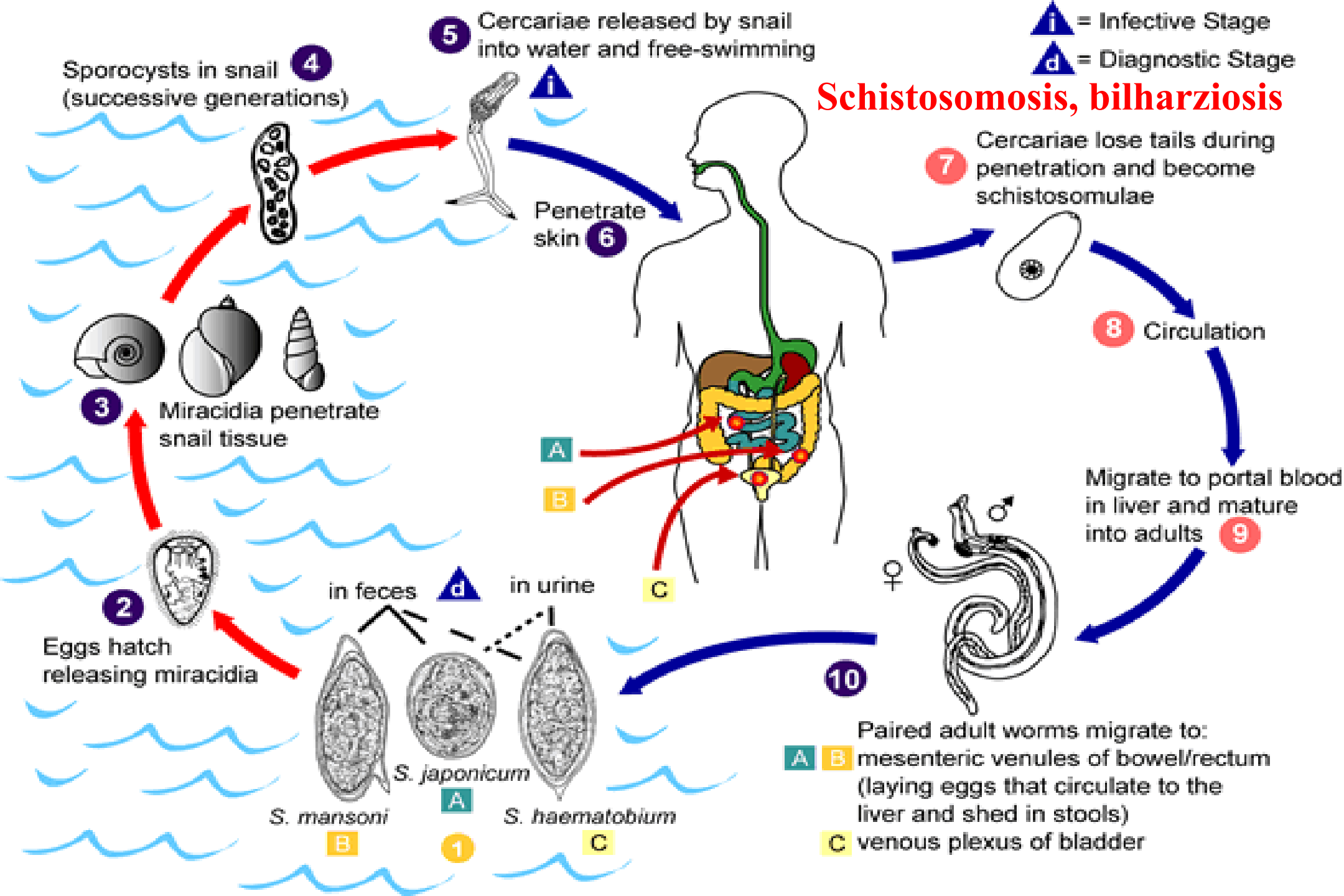
## Flukes (Trematodes)

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

**i** = Infective Stage

**d** = Diagnostic Stage

# Schistosomosis, bilharziosis





# تنبیه هام **ATTENTION**

عنزیري الزائر :  
تحتوي مياه هذه العين على القواقع الناقله لمرض  
البارهارسيا ، وعلايه 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 BILHARAZIASIS. THEREFORE, GOING DOWN TO THE WATER FOR ANY REASON IS STRONGLY PROHIBITED TO CONTROL THE INFECTION WITH BILHARAZIASIS. THANKING YOUR COOPERATION.**

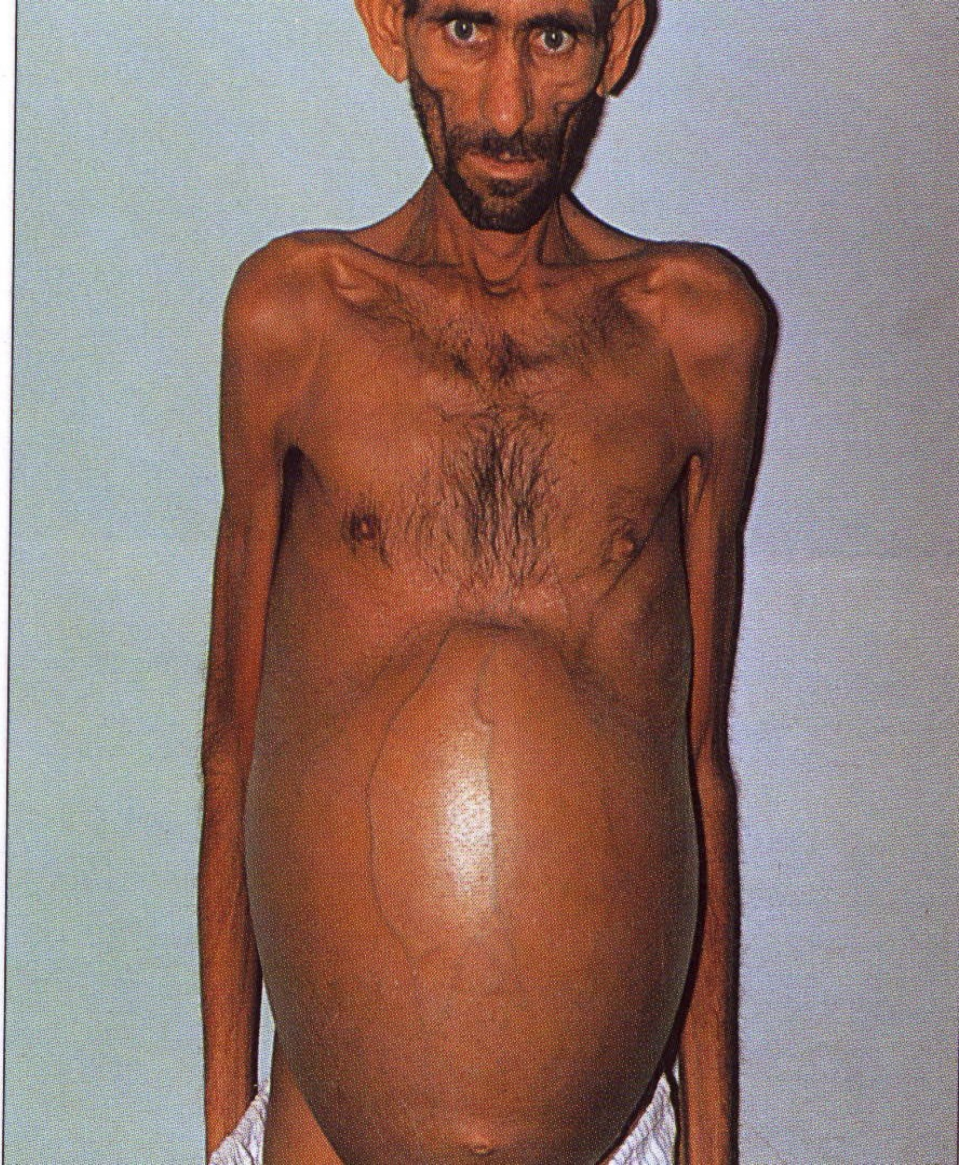
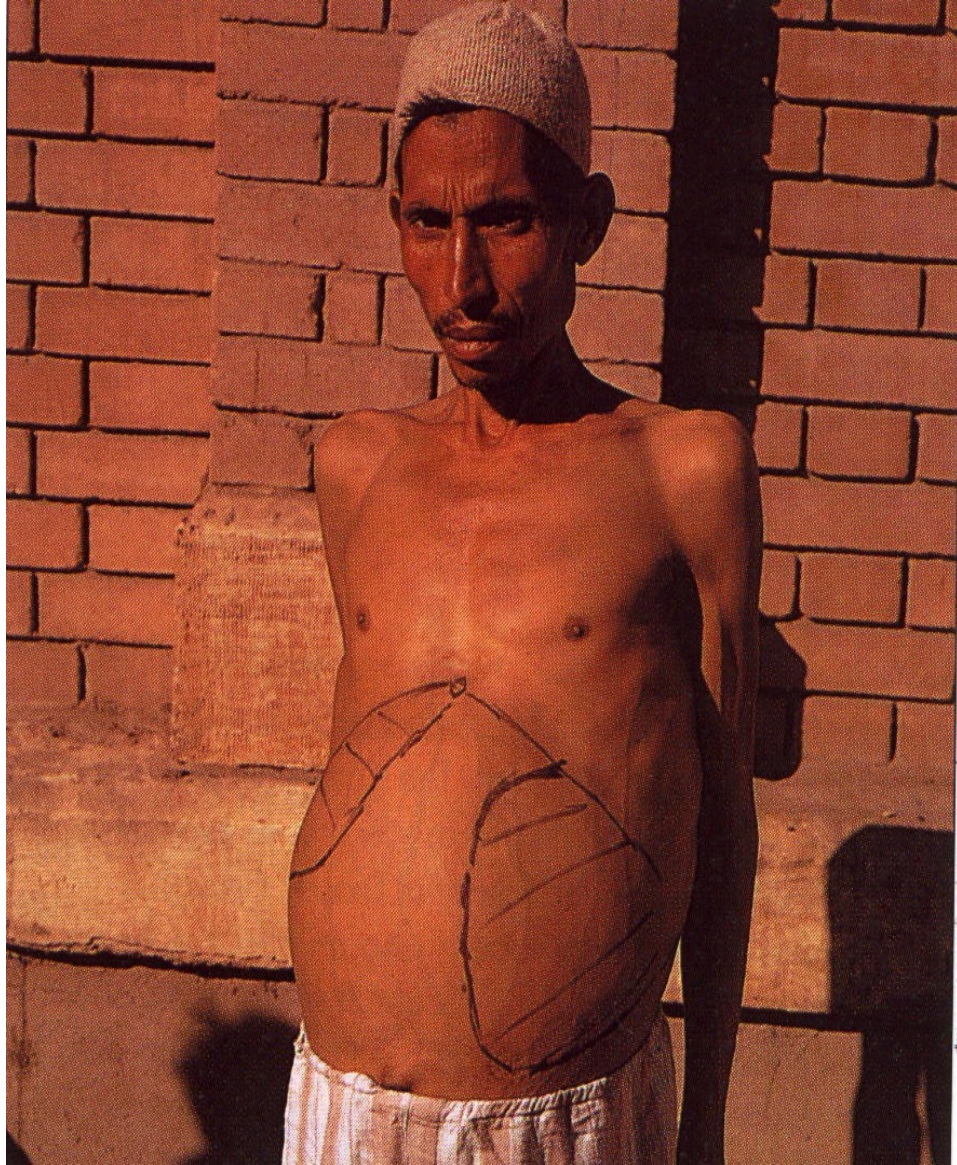


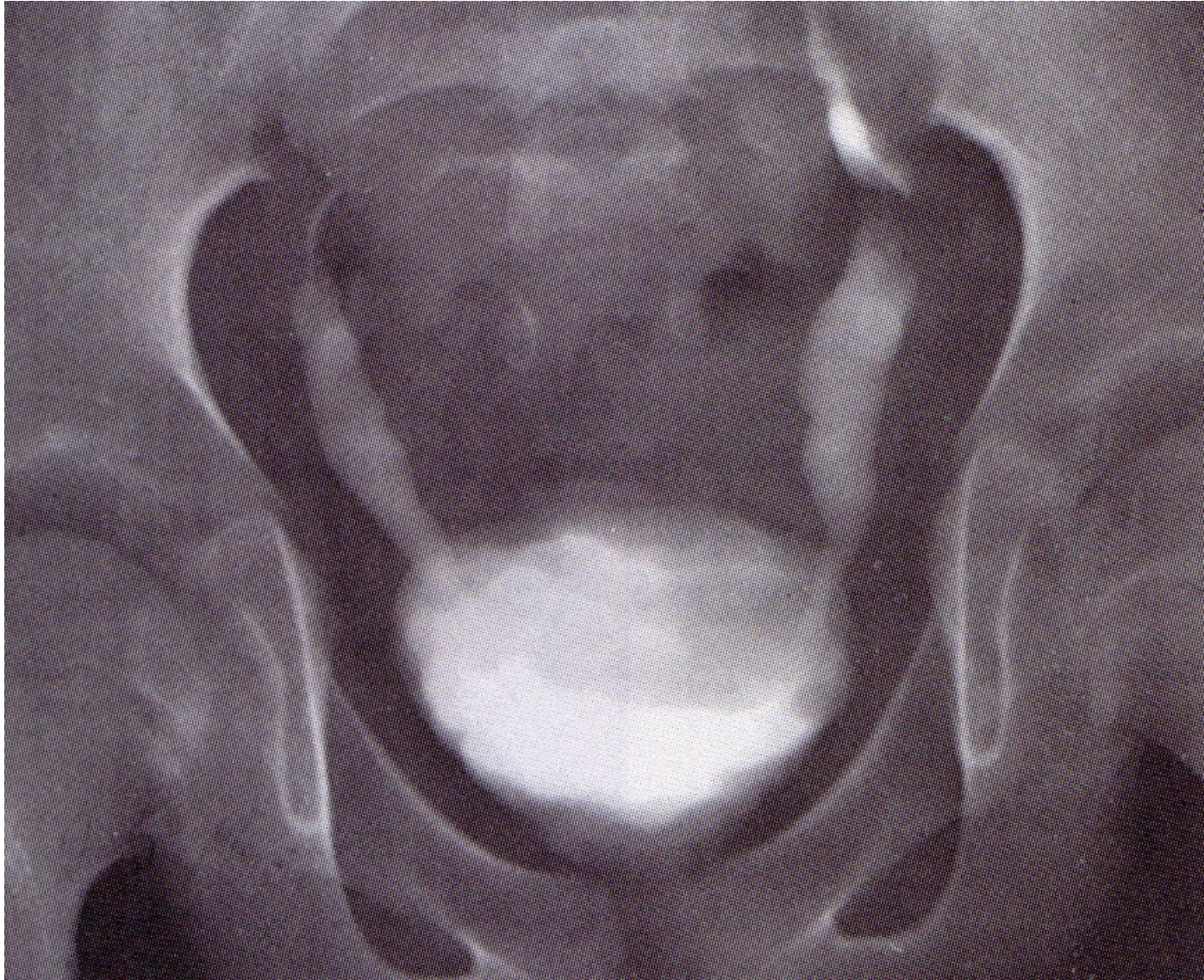












# Fungal GI infections

- 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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