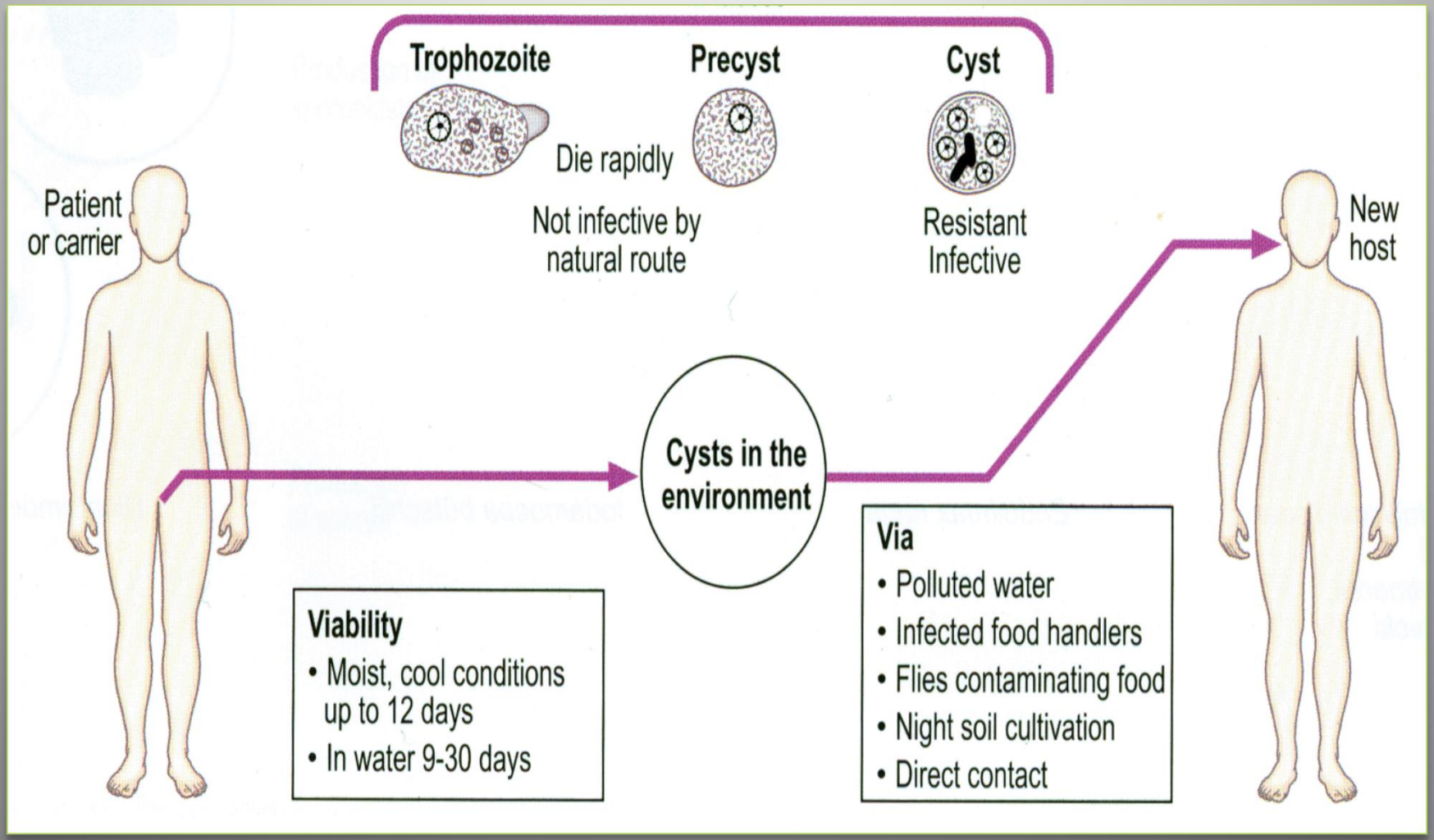
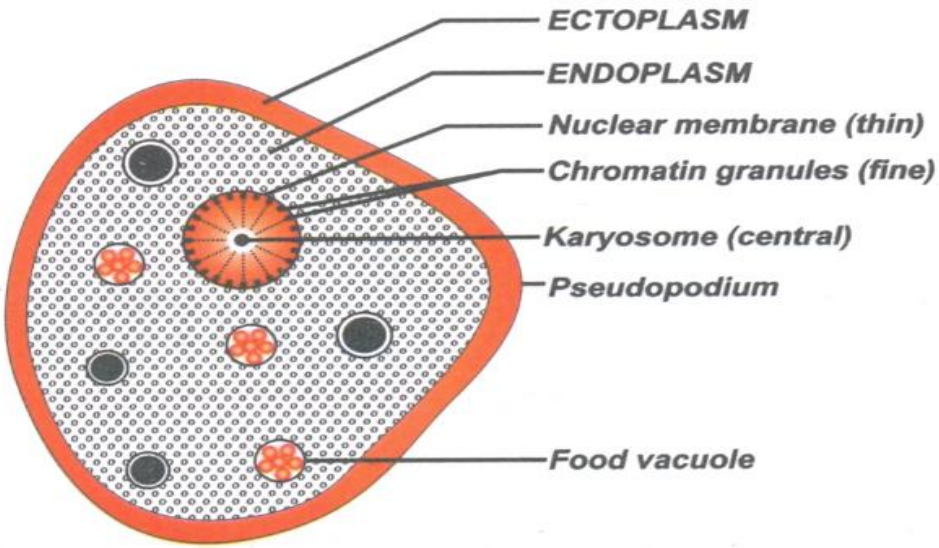
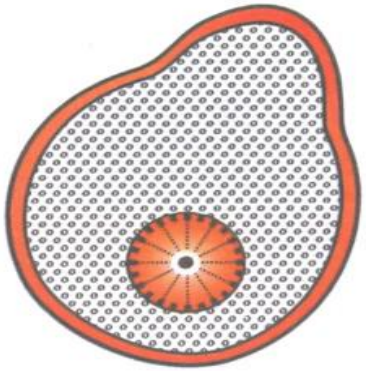
TROPHOZOITES AND CYSTS



• Morphological Forms of E.histolytica



Trophozoite



Pre-cyst

- **Cyst**
  - It is spherical in shape .
  - It has thick chitinous wall .
  - It starts as uni nucleate body but latter divides in 2 and then into 4 nuclei.
  - Cysts are present only in the lumen of colon & in formed faeces .
  - Cysts ranging from 3.5_10μm are considered as nonpathogenic (E. hartmanni) .
  - Stools may contain 1-4 nuclei according to maturation .
  - Cysts of E. histolytica are not

LIFE CYCLE OF E. HITOLYSTICA

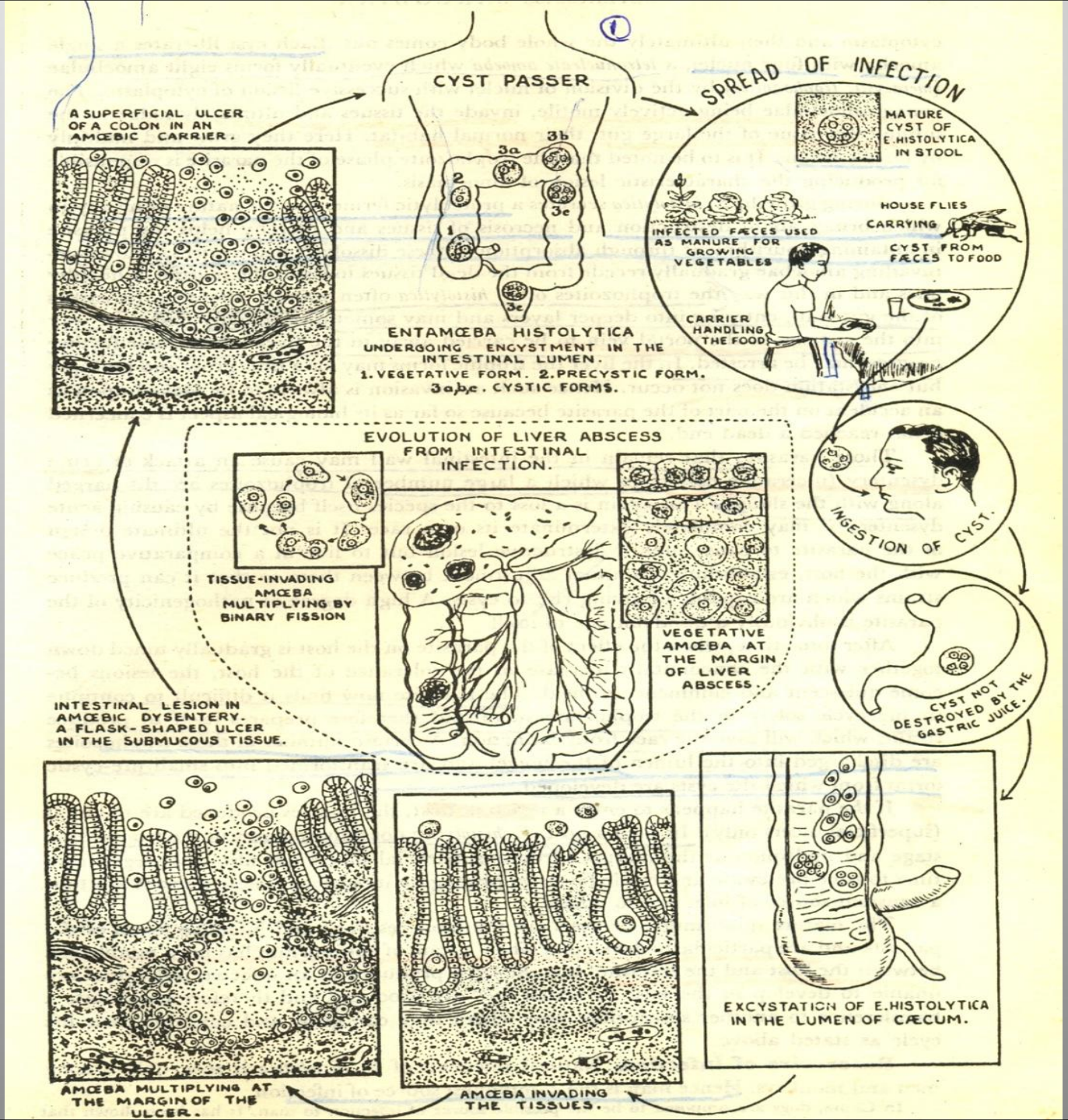
Man is the only host .

Two phases of development are important ;

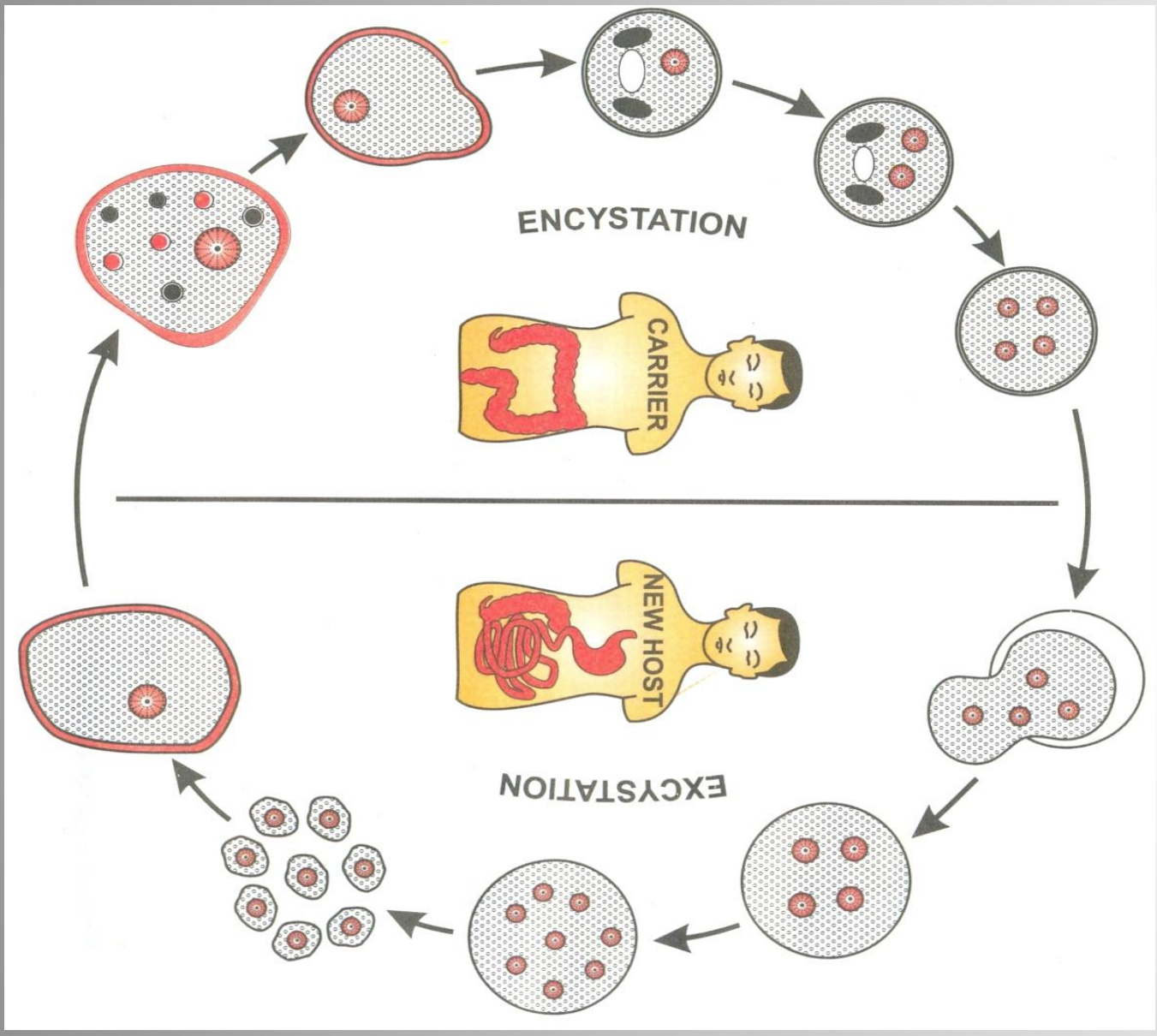
* one is the trophozoite

*other is the cyst (with a *transitory stage of pre cystic form)

Life Cycle of E. histolytica



Life Cycle of E. histolytica



- **Reservoirs of infection.**

  Man is the commonest source of infection.

- **Modes of infection**

  - Transmission is from man to man .
  - Faecal contamination of drinking water , vegetables and fruits .
  - Eating of uncooked vegetables and fruits which have been fertilized with contaminated water.
  - Infected individuals (cyst-passers ,

PATHOGENICITY OF ENTAMOEBA HISTOLYTICA

- **Incubation period**

It is generally of 01 - 04weeks .

Pathological Lesions

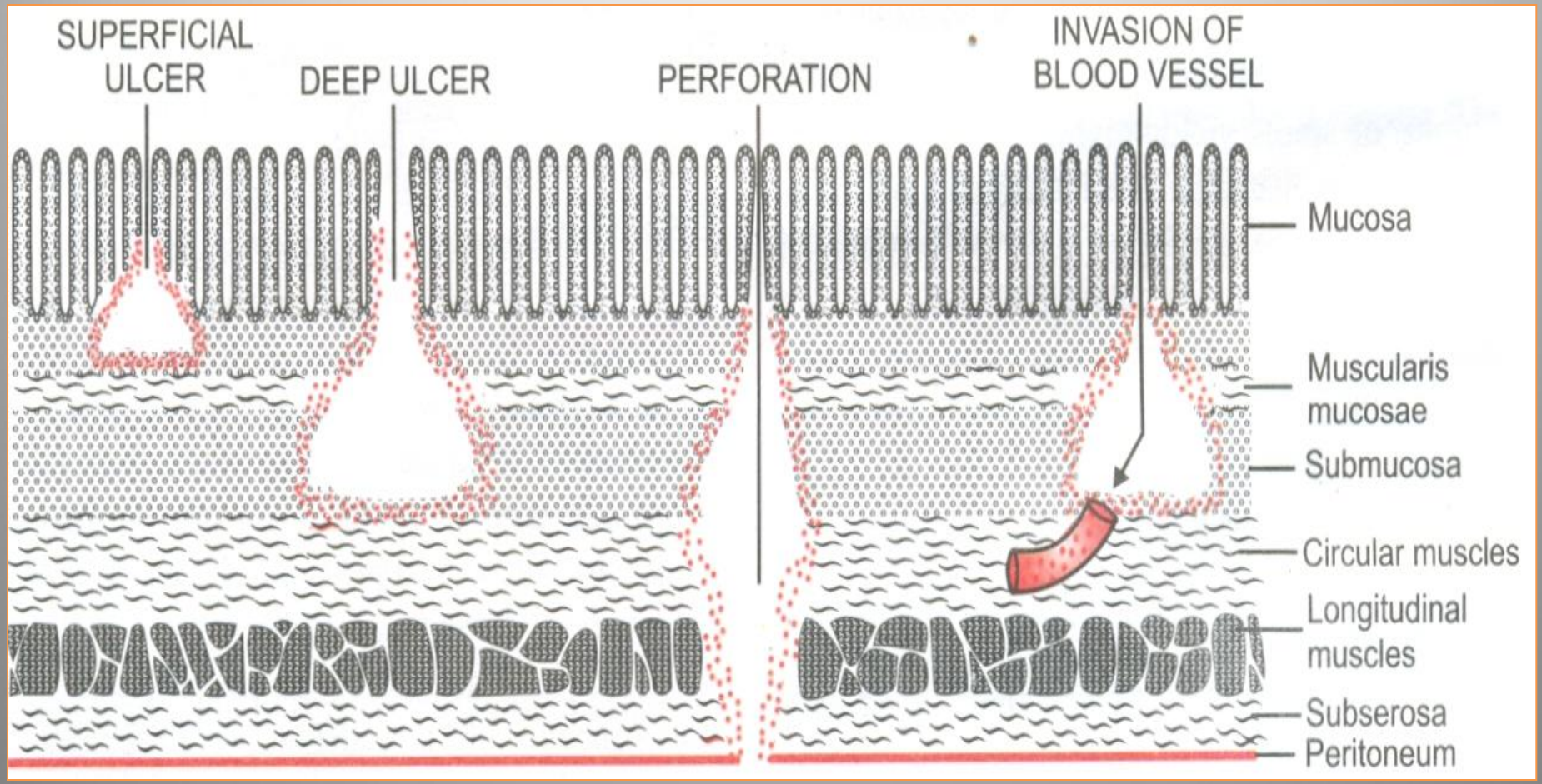
They are of two types ;

1. Primary or Intestinal Lesions.
2. Secondary or Metastatic Lesions.

Primary or Intestinal Lesions (Intestinal Amoebiasis)

- In small intestine cyst wall is lysed by trypsin .
- Trophozoites liberated after excystation enter through crypts of liberkhun .
- Then penetrate directly through columnar epithelium of mucus membrane by their amoeboid activity .
- E . histolytica secretes a proteolytic enzyme that causes destruction & necrosis of tissue .

Pathogenesis of Intestinal Amoebiasis



Primary or Intestinal Lesions (Intestinal Amoebiasis)

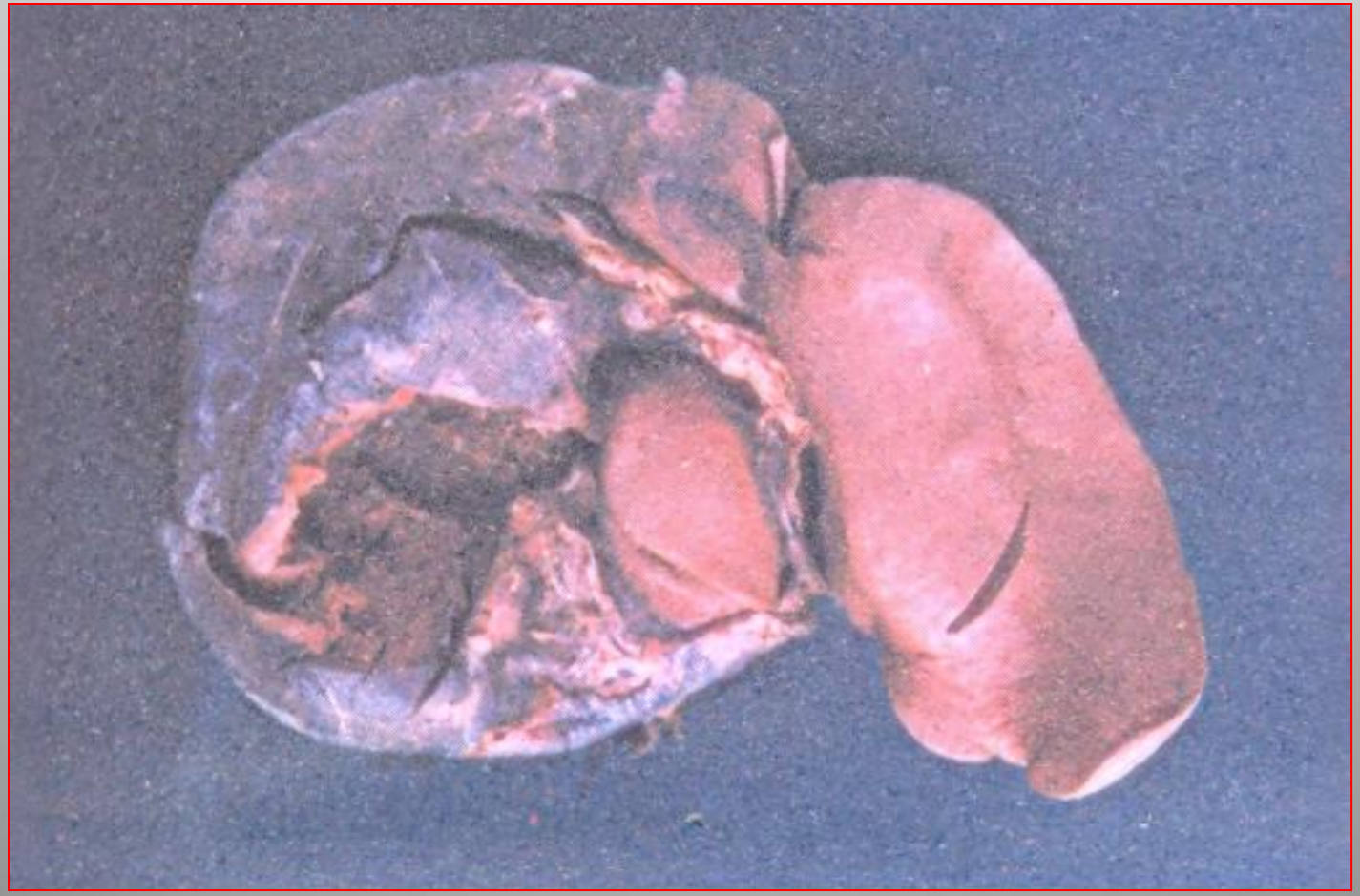
(continued)

- Ulcers may be generalized or localized .
- Ulcers are discrete with intervening normal mucosa .
- Size vary from a pin-head size to >2.5 cm in diameter .
- They may be deep or superficial .
- Base of deep ulcers is generally formed by muscular coat .
- Superficial ulcers don't extend beyond muscularis mucosae .
- E. histolytica may cause cause amoebic

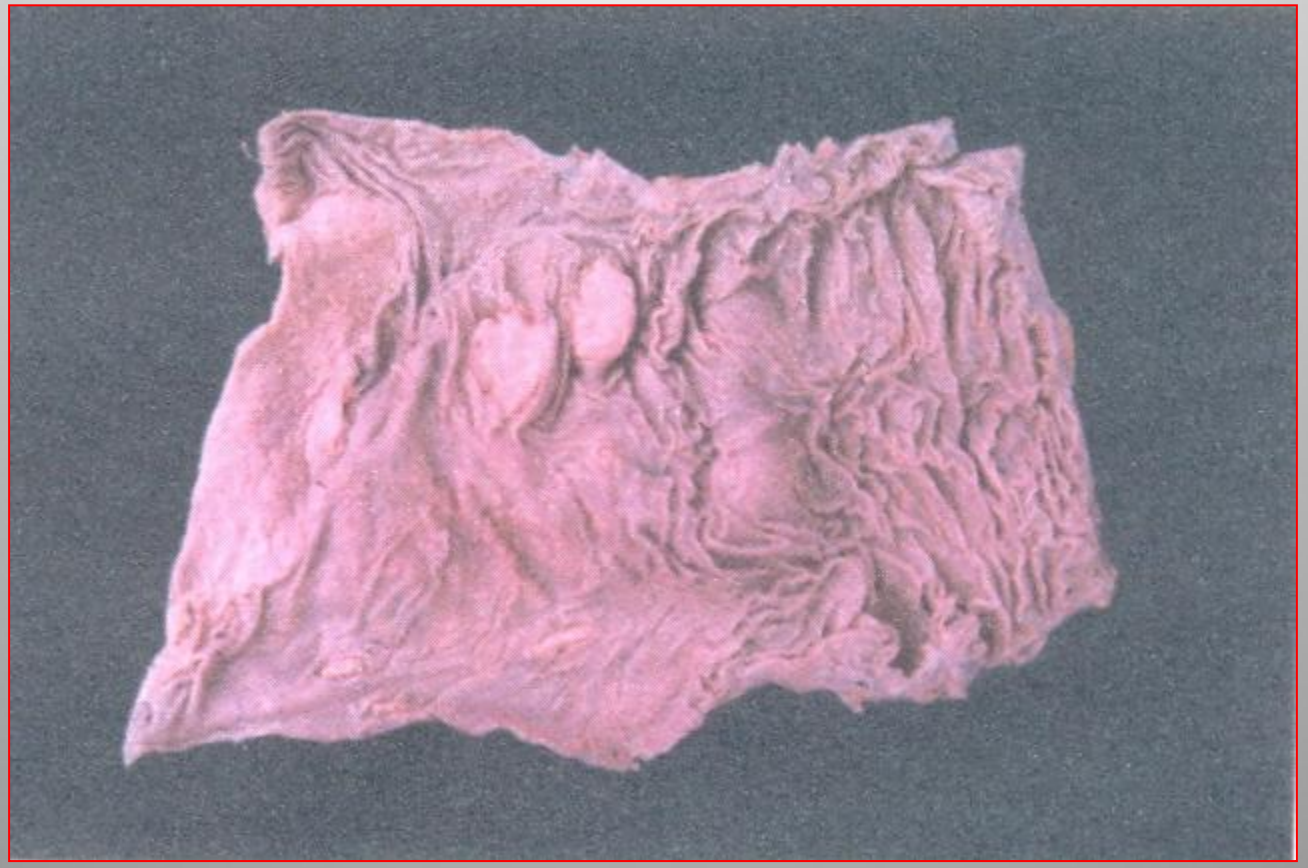
AMOEBOMAS

- Amoebomas are pseudotumeral lesions .
- It is formed by necrosis ,inflammation & oedema of mucosa and sub mucosa .
- Generally it is single or it may be multiple .
- The is usually acute with dysentry , abdominal pain and a palpable mass in abdomen .

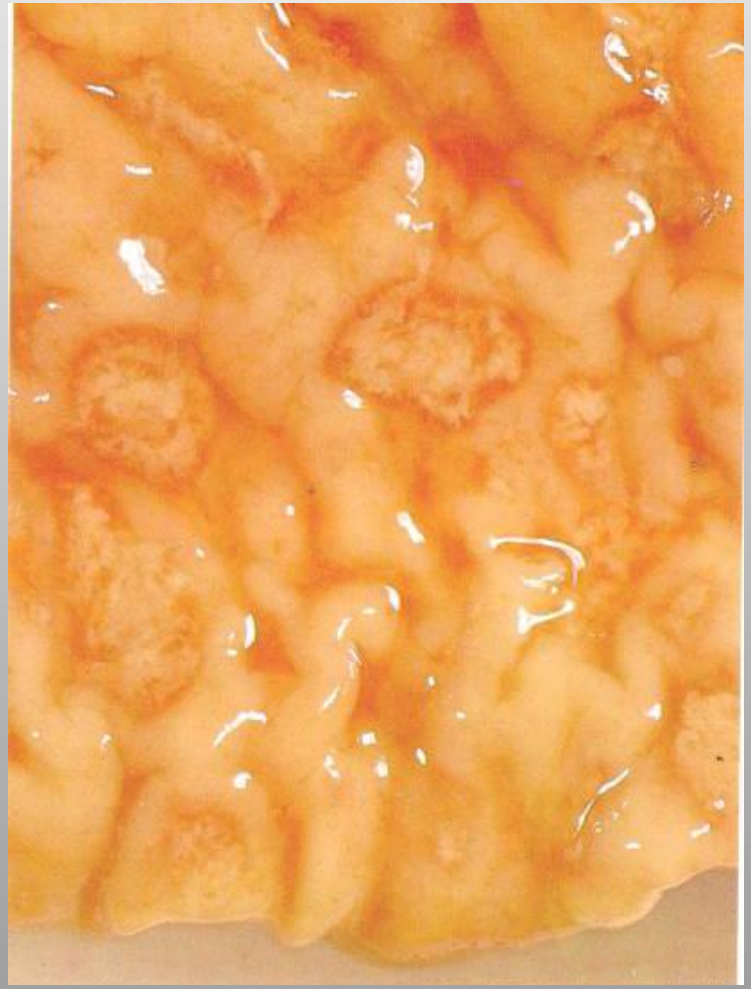
AMOEBIC LIVER ABSCESS



AMOEBIC ULCERS LARGE INTESTINE



AMOEBIC ULCERS LARGE INTESTINE



SECONDARY / METASTATIC / EXTRAINTESTINAL LESIONS

- 5% individuals with intestinal amoebiasis develop hepatic amoebiasis .
- The trophozoites of E. histolytica are carried as emboli by radicals of portal vein from base of an amoebic ulcer in the large intestine , usually from caecum and ascending colon .
- In capillary system of liver trophozoites are trapped and start multiplying and then start their cytolytic action .
- They also cause anaemic necrosis of liver cells .
- This primary lesion forms the starting point of liver abscess

AMOEBIC LIVER ABSCESS

- An amoebic abscess is differentiated in to 3 zones .

i. A central necrotic area filled with pus with no amoeba.

ii. An intermediate zone consisting of degenerated liver cells , a few red cells, leucocytes and occasional trophozoites of E. histolytica .

iii. An outer zone of nearly normal tissue .

AMOEBIC LIVER ABSCESS

Pus of liver abscess:

- The center of an amoebic liver abscess contains a viscous thick red brown (anchovy sauce appearance) or grey fluid consisting of cytolysed liver cells ,red blood cells and leucocytes .
- It contains very few pus cells .

CLINICAL FEATURES OF AMOEBIC LIVER ABSCESS

i. Located in the postero-superior surface of the right lobe of liver ;

ii. Pain and tenderness .

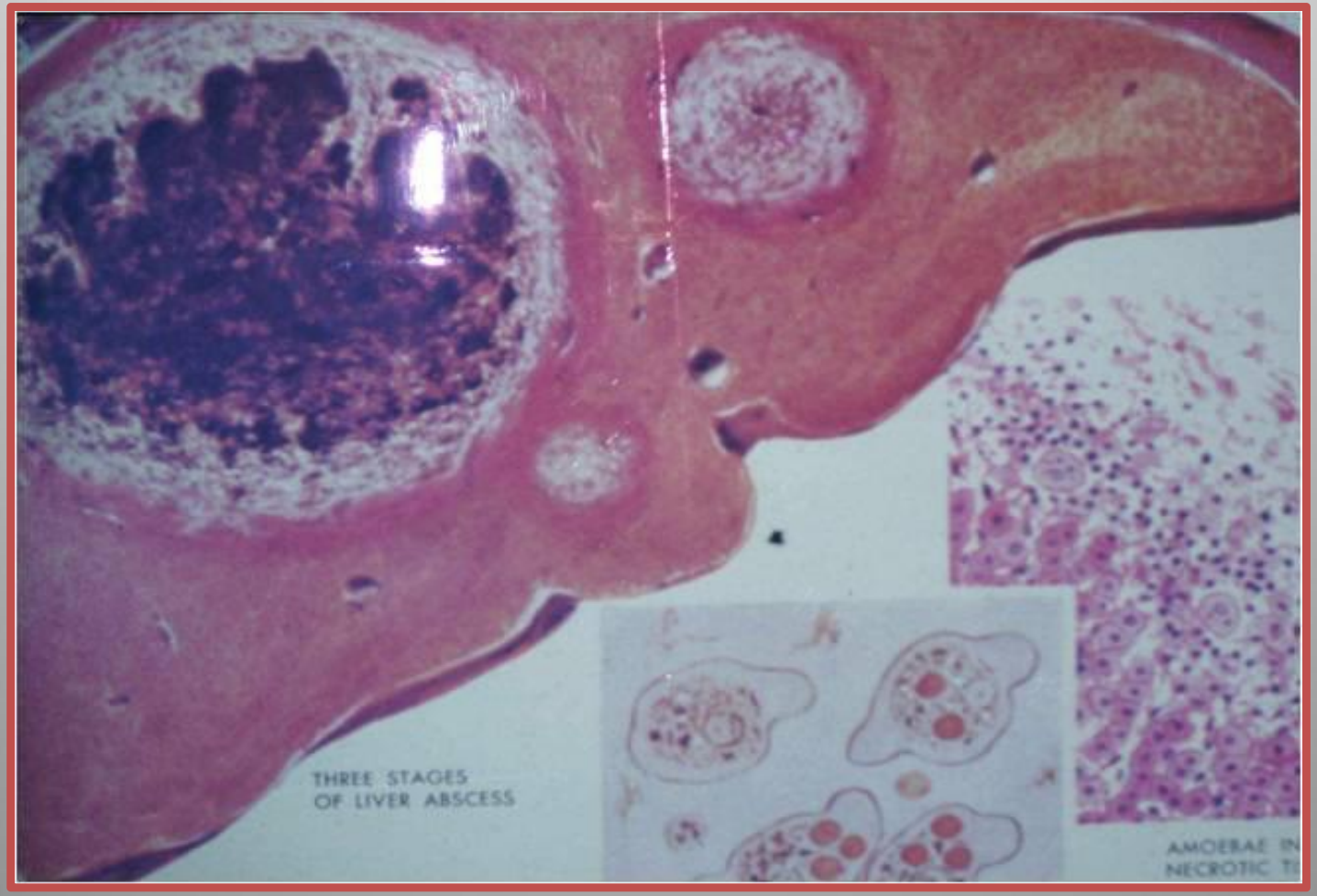
iii. Fever

iv. Jaundice

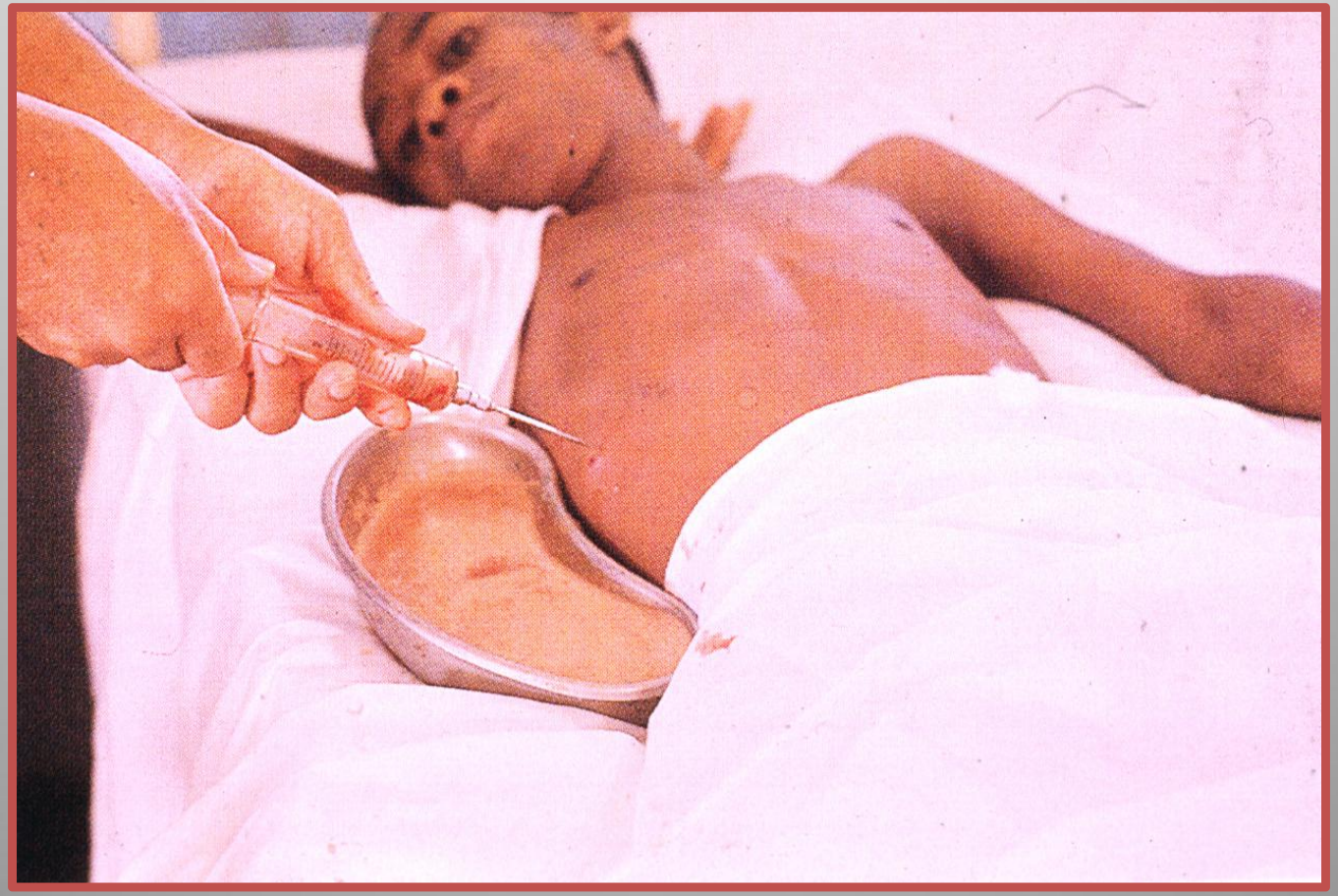
v. General health

vi. On examination

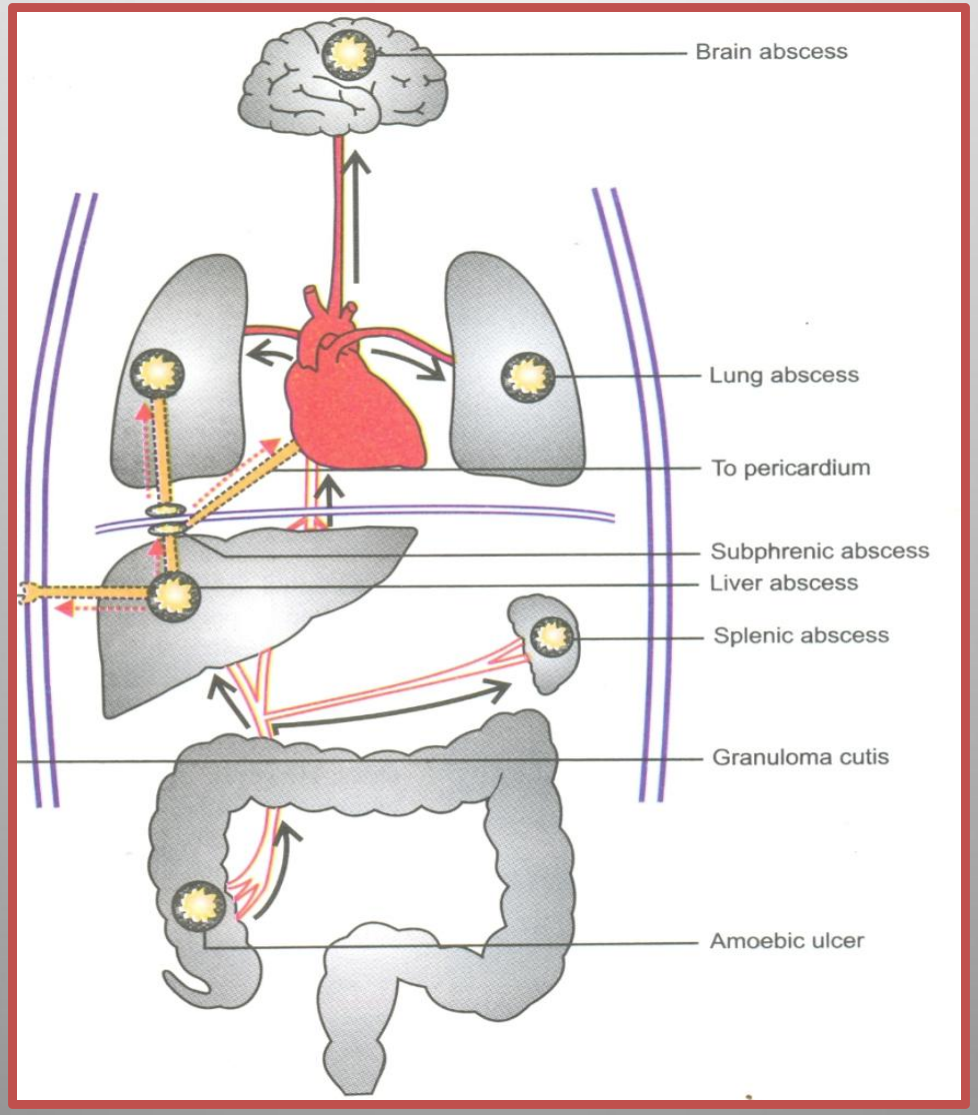
AMOEBIC LIVER ABSCESS



AMOEBIC LIVER ABSCESS



COMPLICATIONS OF AMOEBIC LIVER ABSCESS



METASTATIC LESIONS

- Pulmonary amoebiasis
- Cerebral amoebiasis
- Cutaneous amoebiasis
- Splenic abscess

LAB DIAGNOSIS

- Intestinal amoebiasis

➢ In acute intestinal amoebiasis ;

i. Stool examination ; microscopically shows motile trophozoites of E. histolytica .

For demonstration of cysts or dead trophozoites , stained preperation is required .

ii. Blood Examination

iii. Serological Tests; IHA, IFA, ELISA

LAB DIAGNOSIS

- HEPATIC AMOEBIASIS

i. Diagnostic Aspiration

ii. Liver Biopsy

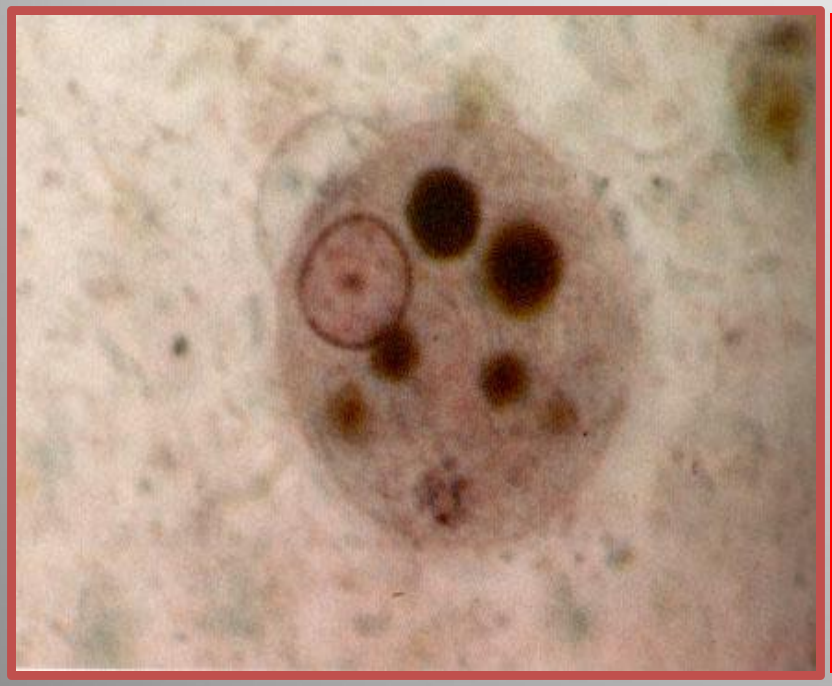
iii. Blood Examination

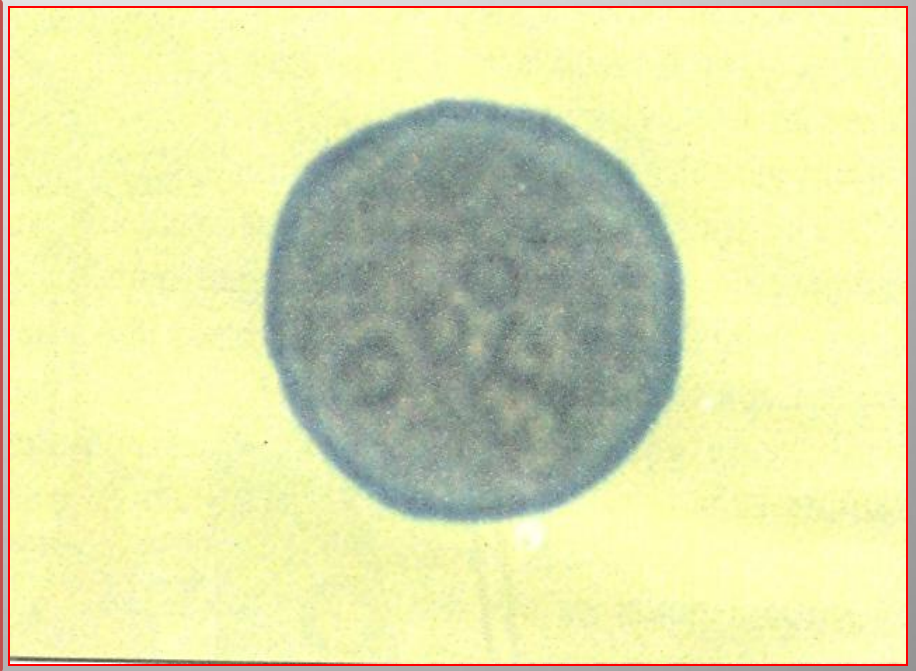
iv. Stool Examination

v. Serological Tests; IHA, IFA, ELISA

vi. Molecular Methods; DNA probes & PCR.

CYST OF ENTAMOEBA HISTOLYTICA IN STOOL





TREATMENT (Antiamoebic drugs)

- Amoebicides with luminal action
  - Diiodohydroxyquin
  - Diloxanide furoate
  - Paromomycin
- Amoebicides effective in liver, intestineal wall & other tissues
  - Emetine
  - Dehydroemetine

TREATMENT
(Antiamoebic drugs)

- Amoebicides effective only in liver
  - Chloroquin
- Amoebicides effective in both tissues & intestinal lumen
  - Metronidazole
  - Nitroimidazole

PREVENTION

- Avoid faecal contamination of food and water
- Asymptomatic cyst carriers must be treated.
- Use of human excreta as fertilizer should be condemned.
- Prevent house flies & cockroaches.

E. Coli E. histolytica