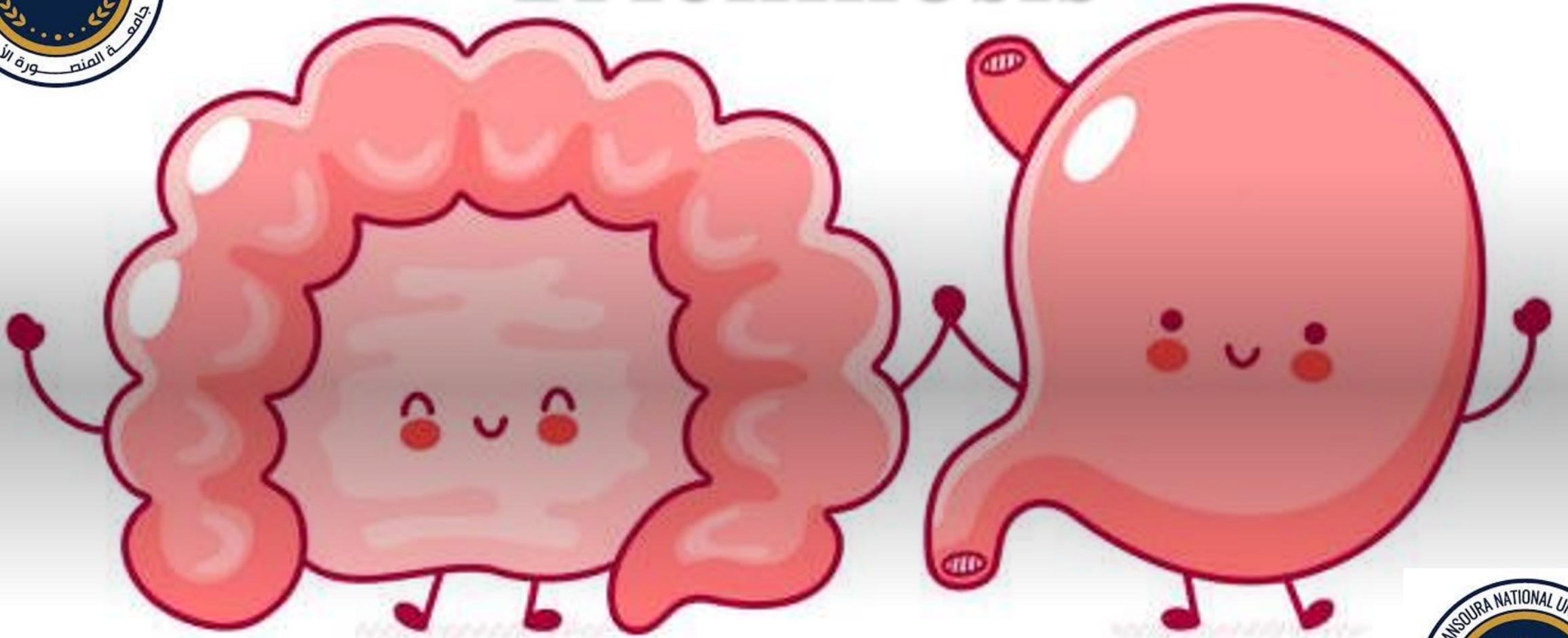




Trichinosis

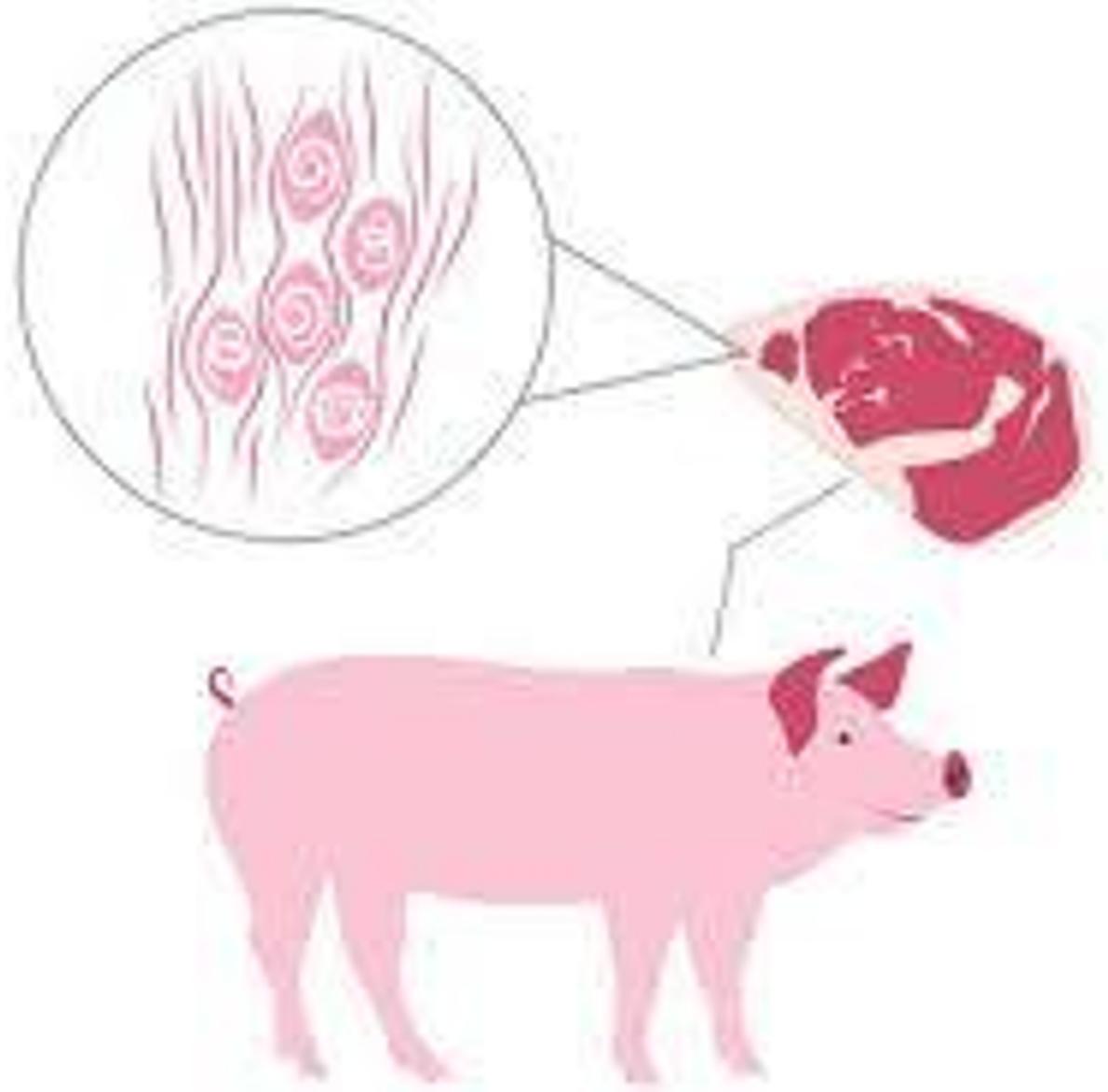


Dr Ahmed Gomaa



Trichinella spiralis

- Cosmopolitan.
- Intestinal nematode.
- Tissue nematode.
- Man:** DH, IH.
- Pork-borne.**
- A small worm with slender anterior end.

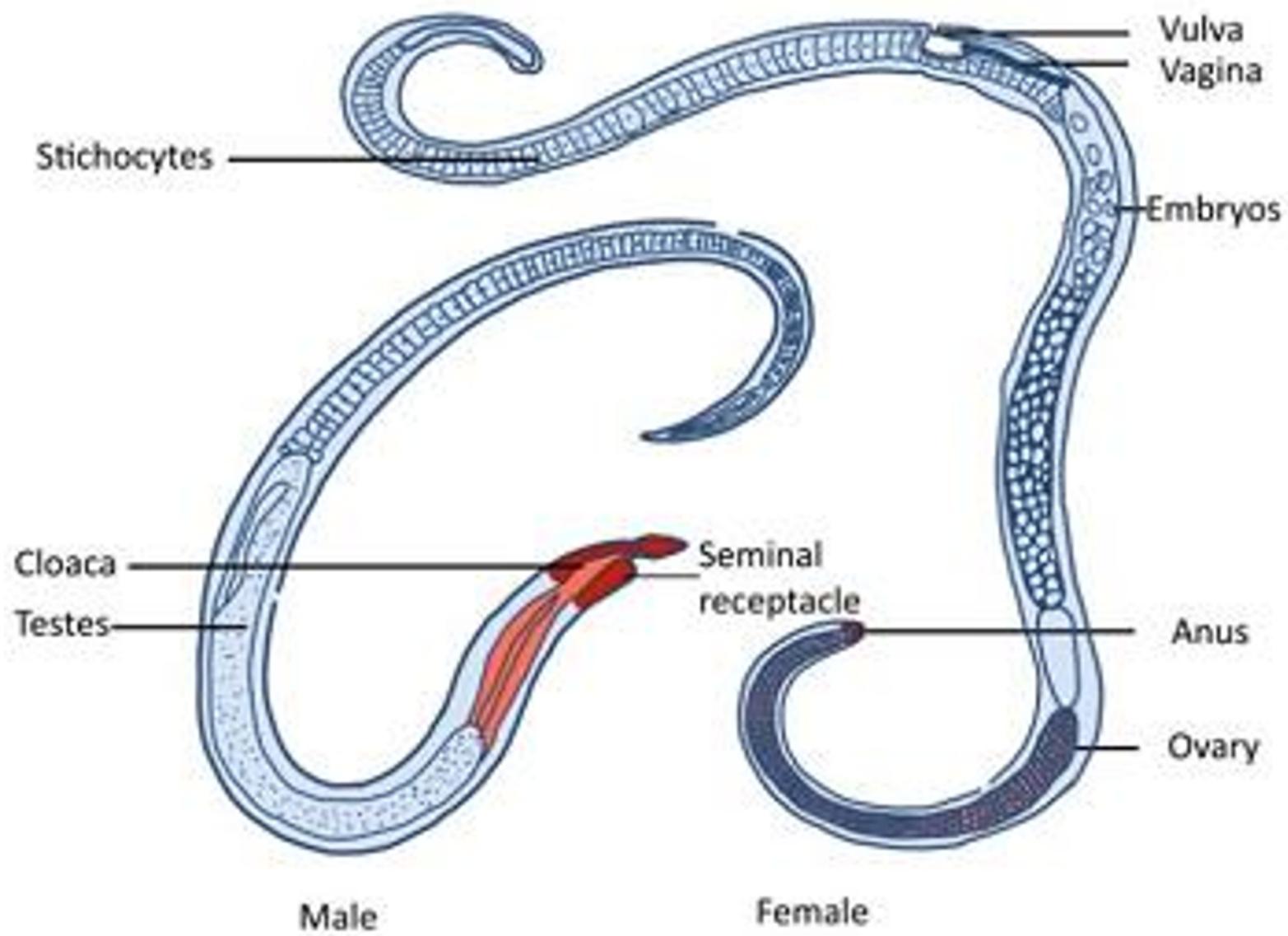


Morphology

Male: 1.5 mm x 40 μ , with ventrally curved Posterior end.

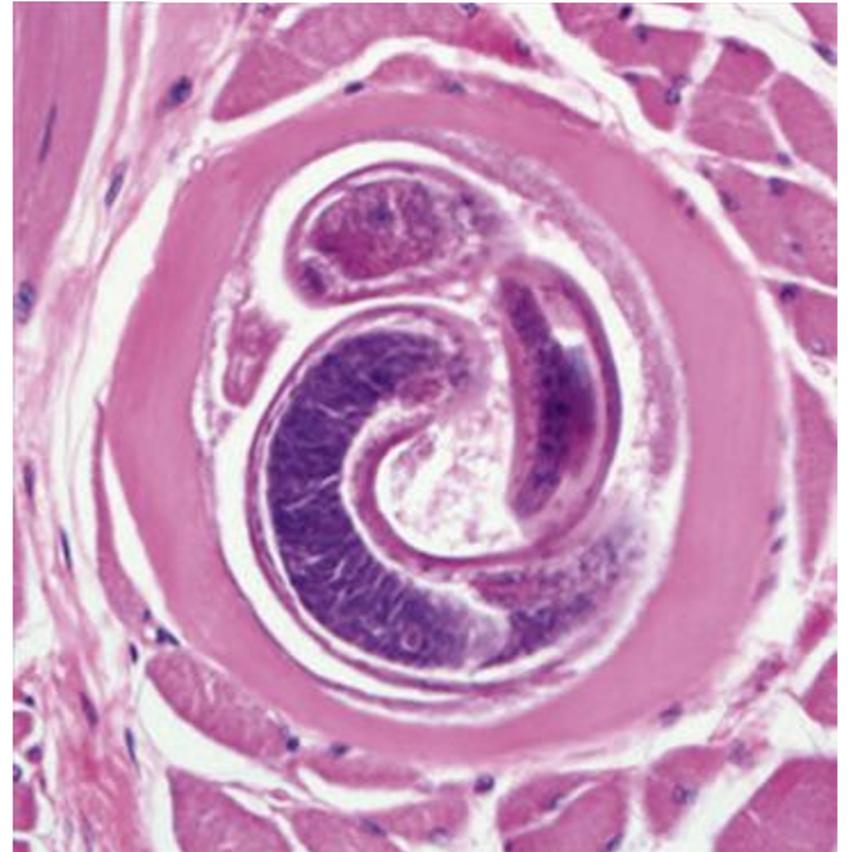
Female: 3 mm x 80 μ , with bluntly rounded posterior end, larvi-parous (**viviparous**).

Larva: measures about 1 mm in length.

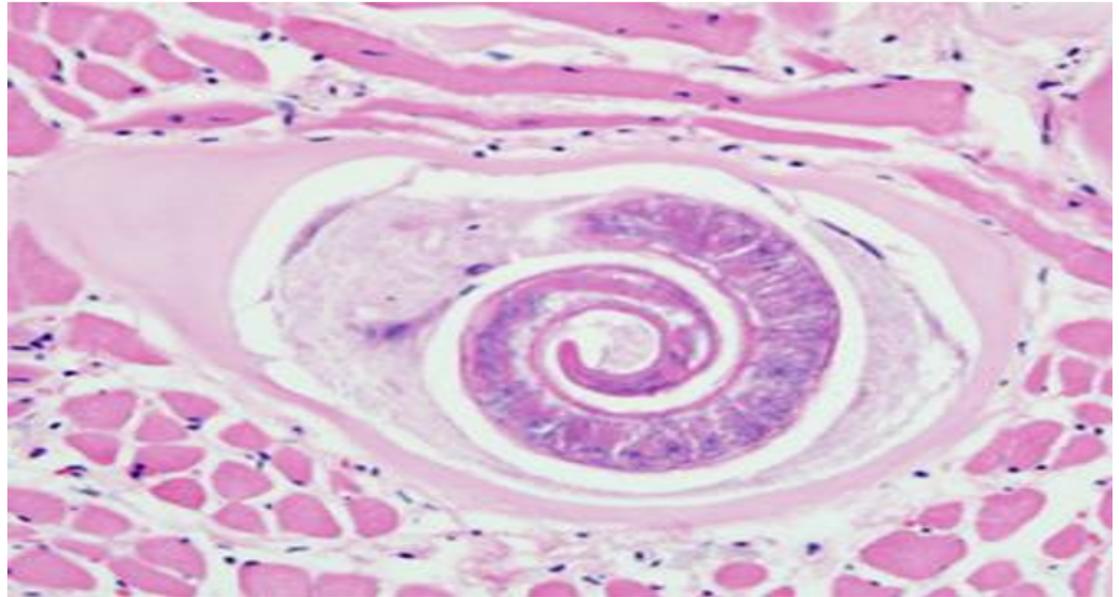


Trichina capsule

- ❑ The larval stage of *Trichinella spiralis*.
- ❑ Common in the **striated active muscles** as diaphragm, intercostal, deltoid, laryngeal and extra-ocular muscles.
- ❑ **Ellipsoidal** in shape, 0.5x0.2 mm in size
- ❑ Contains a larva about **1 mm** in length coiled upon itself.



- ❑ Becomes infective after 17 days from reaching the muscles.
- ❑ Becomes calcified within 18 months, but the larva inside remains viable for years



Life cycle

Habitat: small intestine of definitive and intermediate hosts.

Definitive host and intermediate hosts: man, pigs, rodents, and other carnivorous mammals.

Reservoir hosts: rodents.



After fertilization
males die and
are expelled.

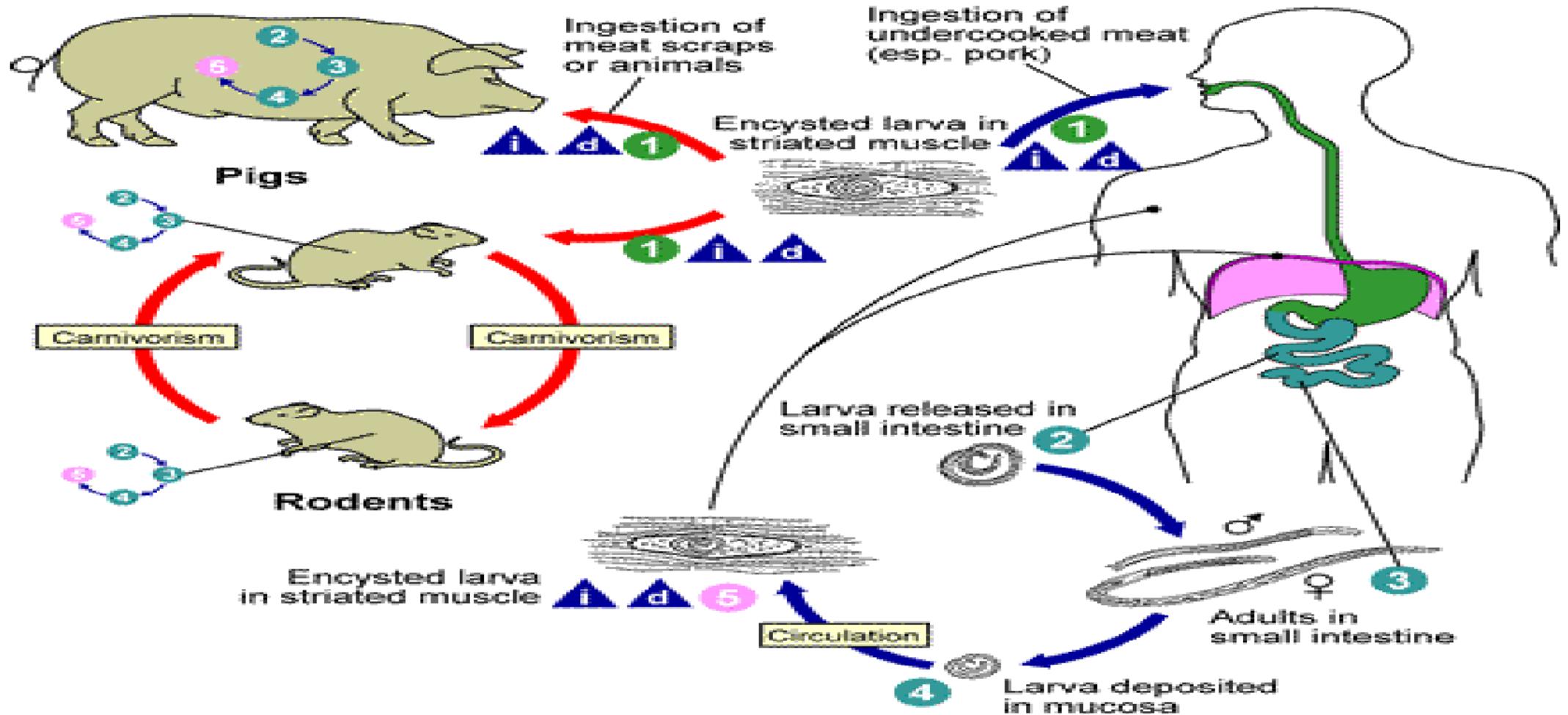
Females penetrate deeply in the
mucosa and lay larvae (0.1 mm),
which find their way to the
circulation, through the
pulmonary filter and distribute
all over the body, particularly
the active striated muscles
where they encyst in the long
axis of the muscles

i = Infective Stage
d = Diagnostic Stage



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Stages in life cycle: larva → trichina capsule → adult.

Infective stage: larva inside trichina capsule.

Diagnostic stage: larva, adult.

Diagnostic samples: stool, blood, muscle biopsy.

Modes of infection



Man is infected by ingestion of raw or undercooked pork containing infective larvae.



Pigs become infected by eating infected flesh from other pigs in garbage or ingestion of infected dead pigs and rats.



Rats are infected by eating flesh of dead pigs or rats and by cannibalism

Pathogenesis, clinical picture

Three stages (intestinal invasion, migration, and penetration and encystment).

Light infections (less than 10 larvae/gm muscle) are usually asymptomatic.

Heavy infections (from 50-100 larvae/gm muscle) may show the following manifestations:

GIT phase (1st week)

Caused by Intestinal invasion by adult worms

Clinical presentation

Symptoms resembling food poisoning; such as, nausea, vomiting, sweating, and colic.

This period usually terminates with facial oedema and fever.

Phase Trichinosis (2nd, 3rd week)

Caused by Larval deposition, migration encystation

Clinical presentation It is tetrad of:

1. Muscle pain, weakness (myositis): active skeletal muscles, e.g. eye, mastication, respiratory.

2. Facial (peri-orbital) edema due to toxin vasculitis.

3. Eosinophilia 20-50%.

4. Fever.

Final stage

Occurs when larvae complete encystations

Clinical presentation- All symptoms subside.-

In severe cases, death occurs, due to myocarditis, encephalitis, or pneumonia

Diagnosis

Clinical

Parasitological

- Stool 1st w, larva and adult
- Blood 2nd w, larva
- Muscle biopsy After 2 w, larva

- **Clinical (during the 1st week):** trichinosis is suspected when gastrointestinal manifestations simulating food poisoning appear in a group of persons with a history of eating pork few days before.
- **Parasitological.**
- **Intra-dermal test** (Bachman's test, after 2 weeks).
- **Serological tests:** ELISA, IFA

Treatment

Symptomatic:

- Bed rest.
- General supportive treatment.
- Sedatives.-Steroids.
- Fluids and electrolyte balance should be monitored

Medical Treatment

Thiabendazole.

Mebendazole.

Prevention and control

Thorough cooking of meat.

Regular meat inspection by means of trichinoscopy of pork.

Effective treatment of pork by means of refrigeration.

Extermination of rodents from pig farms



THANK

YOU!