

## ***Taenia solium*; Pork tape worm**

- *Taenia solium* commonly known as the pork tapeworm or the armed tapeworm.
- It is a flat-ribbon like tape worms that causes intestinal taeniasis.
- Adult worms are rarely pathogenic but the encysted larval stage (cysticercus cellulosae) of the worm caused a serious disease in human called **Cysticercosis**.

### **Habitat:**

- The adult worm inhabits the small intestine (upper jejunum) of human.

### **Morphology:Adult worm:**

- Adult *Taenia solium* is a flattened ribbon like tapeworm that is white in color.
- The adult worm measures about 2-3 meters in length.
- The body of parasite can be divided into 3 parts:- Head (Scolex), neck and body (strobila)

#### **i. Scolex (Head):**

- It measures 1 mm in diameter, about the size of a pin head.
- It is globular in shape and has 4 circular suckers.
- The head is provided with a rostellum armed with a double row of alternating large and small hooklets (130-180mm long).
- The presence of hooklets gave its name armed tape worm.

#### **ii. Neck:**

- The neck is short measuring 5-10 mm in length.
- **iii. Body (Strobila):** The body or Strobila consists of segments or proglottids.
- The total number of proglottids are about 800-900.
- The proglottids may be immature, mature or gravid.
- The gravid segment measures 12 X 6 mm in diameter and looks grayish-black and transparent when fully developed.
- The worm is hermaphrodite and each segment containing both male and female reproductive organs.
- The common genital pore is marginal, thick-lipped and is situated near the middle of each segment alternating between the right and left side.
- Testes consists of 150-200 follicles.
- An ovary is two in number which has a third (accessory lobe).
- The ovary is situated in the posterior side of the segment.
- The gravid consists of a median longitudinal stem of uterus having 7-13 branches on each side of the segment.
- Uterus is completely filled with eggs and each gravid consist nearly 30,000-50,000 eggs.
- The vaginal opening is not guarded by a muscular sphincter.
- The gravid segment are expelled passively, in chains of 5 to 6 at a time and not singly.

## 2. Eggs:

- Eggs are similar to those of *Taenia saginata*.
- Each egg is round, brown in color, measures 40-50  $\mu\text{m}$  in diameter
- Each egg consists of two shells.
- The outer shell is thin, transparent and represents the remnant of yolk mass.
- The inner shell, also known as embryophore is brown, thick walled and radially striated. It encloses the embryo.
- The embryo measures 14-20  $\mu\text{m}$  in diameter with hooklets.
- Eggs do not float in saturated solution of common salt (NaCl).
- Eggs are infective to pigs as well as to humans.

## 3. *Cysticercus cellulosae* larvae

- Larvae is *cysticercus cellulosae* and is the Infective form of parasite.
- It is also known as *Taenia* cyst.
- The larval form develops in the muscle of pigs as well as various organs of the human.
- A mature cyst is an opalescent ellipsoidal body and measures 8-10 mm width by 15mm in length. It has a fluid filled milky white bladder like structure.
- The long axis of cyst lies parallel with the muscle fiber. The cyst is separated from the host tissue by a thin collagenous capsule. There is a dense milk white spot at the side, where the scolex with its hooks and suckers remain invaginated.
- The cavity of cyst is fill with a clear fluid rich in albumin and salts.
- The larvae can live for about 8 months in muscles of pig and can only develop into adults when ingested by man.