<table>
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<tr>
<th><strong>TAENIA SAGINATA</strong></th>
<th><strong>TAENIA SOLIUM</strong></th>
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| 1. Local intestinal inflammatory reactions leading to abdominal pain, hunger pain, indigestion, diarrhoea, or constipation.  
2. Loss of weight and appetite.  
3. Intestinal obstruction  
4. The active passage of gravid segments may cause irritation, itching, insomnia & anxiety. | 1. Taeniasis solium: The adult worm causes mild irritation or inflammation of the intestinal mucosa leading to diarrhoea. Similar to taeniasis saginata.  
2. Cysticercosis: when man ingest eggs of *T.solium* and develop *Cysticercus cellulos* in extra-intestinal tissues. |

**DIAGNOSIS**

| **A. Clinically:** Intestinal taeniasis caused by *Taenia saginata* is suspected, in endemic areas, by the crawling movements of gravid segments in the peri-anal area.  
B. **Laboratory Diagnosis:**  
1. Stool examination for the characteristic egg. (rare)  
   • It is differentiated from that of *Taenia solium* by Ziehl-Neelsen stain.  
2. Peri-anal swabbing to detect *Taenia* eggs in the perineum is recommended.  
3. Identification of the characteristic gravid segments in the stool, or after saline purge. They are compressed between 2 slides & examined for the number of lateral uterine branches (*uterus* is injected with India ink). | • Stool examination for the characteristic gravid segments, eggs (rare).  
• Eggs can be differentiated from those of *T.saginata* by Ziehl-Neelsen stain.  
• Counting the lateral branches of the gravid segments can differentiate between the two types. |

**TREATMENT**

| **1. Niclosamide (Yomesan) is the drug of choice. It is effective in an oral dose of 2 gm taken on an empty stomach, i.e. before breakfast.**  
2. **Praziquantel as a single oral dose of 10 mg/kg body weight.**  
3. The treatment should be followed by:  
   • Administration of purgatives to expel out the killed worm in the stool.  
   • Stool examination for the characteristic scolex should be done to assess cure. | **1. Praziquantel as given for *T. saginata*.**  
2. Atebrine causes expulsion of the parasite, but it causes nausea and vomiting. So anti-emetic must be given one hour before. Treatment must be followed by purgative to avoid the possibility of internal autoinfection and cysticercosis.  
3. Niclosamide (Yomesan) and Paromomycin should be avoided because they disintegrate the segments releasing large number of eggs with the possibility of internal autoinfection and cysticercosis.  
4. **Avoid emetic drugs, during taeniasis solium, to prevent anti-peristaltic movements & subsequently internal autoinfection and cysticercosis.** |

- Proper cooking of beef or roasting it as thin slices.  
- Freezing of beef at -10°C for 5-10 days to kill the cysticerci.  
- Inspection of meat, for cysticerci, at slaughter houses. The infected meat (measly beef) should be condemned.  
- Mass treatment of infected patients.  
- Sanitary disposal of human stool to avoid contamination of grass.  
- Proper feeding of herbivorous animals (cattle and camel) in un-contaminated areas.  
- Health education.  

- Similar to *T. saginata*, but mainly directed towards Pigs.  
- Prompt treatment of infected cases to avoid the risk of autoinfection.  
- Infected patients should avoid emetics or nauseating drugs.
**CYSTICERCOSIS**

**DEFINITION**

a pathological condition in which the *Cysticercus cellulosae* are present in the human organs and tissues, i.e. man acts as an accidental intermediate host in a blind cycle.

**METHODS OF INFECTION:**

1. Ingestion of *T. solium* eggs with contaminated food or drink.
2. **External auto-infection**
   - direct ingestion of *T. solium* eggs by unclean hands of a carrier harbouring the adult *T. solium* (Anal- oral route of infection)
3. **Internal auto-infection**
   - administration of emetic drugs or vomiting induce anti-peristaltic movements that carry the gravid segments to the stomach, they disintegrate, eggs liberate onchospheres which penetrate the intestinal wall and gain access to the circulation.
4. In all cases, in the small intestine of man, the eggs hatch liberating the onchospheres, penetrate the intestinal wall, to the circulation, settle in different organs and tissues (subcutaneous tissues, brain, eye and muscles) and develop into *Cysticercus cellulosae*.

**PATHOGENESIS AND CLINICAL PICTURE**

- The cyst produces local cellular reaction and infiltration with neutrophils, eosinophils and lymphocytes.
- Clinical picture depends upon the organs affected and number of cysticerci.
- In vital organs( heart and brain), serious manifestations appear and may lead to death.
- Cerebral cysticercosis results in severe headache, convulsions and end by paralysis.
- If affects the muscles; myositis and muscle pain.
- Generally; mild fever and eosinophilia.

**DIAGNOSIS:**

1. Plain X-ray for muscular and subcutaneous calcified cysts.
2. Histo-pathological study, by biopsy if possible, to demonstrate the cysticerci.
3. US , CT, and MRI can be used.
4. Serological tests as IHA and ELISA, may be helpful.

**TREATMENT**

- Surgical removal of cysts whenever possible.
- Praziquantel: It is given in an oral dose of 50 mg/kg body weight/day, in 3 divided doses, for 15 days.
- Corticosteroids should be given 3 days before specific treatment, to reduce the inflammatory reactions caused by the dead cysticerci. The patient must be hospitalized for fear of neurological complications.
- Albenemadazole (15 mg/kg body weight/day for month) is also effete.

**PREVENTION AND CONTROL**

- Avoid contamination of food or drink with *T. solium* eggs, e.g. raw vegetables grown in fields fertilized with un-treated human stool.
- Improvement of personal hygiene.
- Early treatment of infected patients to avoid exogenous autoinfection.
- Avoidance of emetic drugs to avoid endogenous autoinfection.
- Avoid use of human excreta as fertilizer.

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<thead>
<tr>
<th>Items of Difference</th>
<th>Intestinal taeniasis</th>
<th>Cysticercosis</th>
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<tbody>
<tr>
<td>1- Infective stage</td>
<td><em>Cysticercus cellulosae</em></td>
<td>Egg</td>
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<tr>
<td>2- Mode of infection</td>
<td>Ingestion of Under-cooked infected pork containing the larvae</td>
<td>1- Ingestion of food or drink contaminated with eggs.</td>
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<td>3- Clinical</td>
<td>Intestinal tract infection</td>
<td>Cystic lesions, may be :</td>
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<tr>
<td>manifestations</td>
<td></td>
<td>1- Disseminated</td>
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<tr>
<td></td>
<td></td>
<td>2- Ocular</td>
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<td></td>
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<td>3- Neuro-cysticercosis</td>
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<tr>
<td>4- Diagnosis</td>
<td>1- Stool examination for eggs and segments.</td>
<td>1- Radio-diagnosis</td>
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<tr>
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<td>2- Serological tests are of no value.</td>
<td>2- Biopsy</td>
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<tr>
<td></td>
<td></td>
<td>3- Cytological diagnosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4- Serological diagnosis</td>
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