Parafilaria

[Image source: Google image]
Morphological Characters:

- Slender shaped white worms.
- Adult worms bear 13 rows of cuticular elevations at the anterior end.
- Male worms has loosely coiled and bluntly rounded tail.
- Female worm has bluntly rounded posterior tail.
- Female worm is ovoviviparous and hence, lay larvated egg on the skin surface.
### Parafilaria

**Family:** Filariidae  
**Species:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Fina host</th>
<th>Intermediate host</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Parafilaria bovicola</em></td>
<td>Cattle &amp; buffalo</td>
<td>Muscid flies (<em>Musca lusoria</em> &amp; <em>M. xanthomelas</em>)</td>
<td>Subcutaneous and intermuscular connective tissue</td>
</tr>
<tr>
<td><em>Parafilaria multipapillosa</em></td>
<td>Horse &amp; donkey</td>
<td><em>Haematobia</em> spp.</td>
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**Parafilaria**

**Life-cycle:**

**Indirect life-cycle**

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*Musca* sp.  

*Haematobia* sp.
Transmission:

- Transmission occurs when infected *Musca* or *Haematobia* flies (feed on lachrymal secretions or skin wounds in final hosts).
- Eggs or microfilariae (L₁) present in exudates from bleeding points in the skin surface is ingested by flies and in which they develop to L₃.
Life-cycle:

- Eggs deposited, then migrate and develop into adult stage under the skin.
- Female worms live in a nodule in the skin in which it pierces to lay eggs on the surface.
- Eggs/larvae present in the exudate from bleeding points which develop 7-9 months after infection in the skin.
- Hemorrhagic exudates from the lesions attract flies which ingest the eggs or larvae.
- Transmission occurs when infected flies feed on lacrimal secretions or skin wounds.
- Infective 3rd stage larvae develop into fly.
Pathogenesis:

- Haemorrhagic nodules under the skin which may appear during summer in cattle & buffalo particularly in draught animals like bullocks on their neck, shoulder etc.

- Nodules may burst on sunny day and blood with sero-sanguineous exudates comes out. Due to this disease is called haemorrhagic dermatitis or summer bleeding.

- Secondary bacteria infections may lead to abscess formation in bleeding points.

- *Parafilaria multipapillosa* form haemorrhagic nodules more nodular than *Parafilaria bovicola*. 
Clinical signs:

- *Parafilaria bovicola* causes haemorrhagic dermatitis or summer bleeding in cattle, commonly on the head, shoulders, withers and neck.
- Summer bleeding commonly occurs in draught animals like bullocks working in the field in the day time.
- Haemorrhagic nodules are unhealing type and disappear in the winter season and again appear in the summer season.
- Infection also causes weakness of animals and disturbances to the animals which result reduction in their working capacity.
Diagnosis:

- On the basis of clinical signs (hemorrhagic nodules).
- Microscopic examination of hemorrhagic exudates reveal embryonated and stretched out microfilariae of worm.
- Female worms may be extracted from the hole of the freshly burst nodule for specific diagnosis.

- ELISA
Treatment:

- **Nitroxynil @ 20 mg/kg repeat after 3 days.**
- **Ivermectin @ 0.2 mg/kg s/c**
- **Levamisole- 7.5 mg/ kg daily for 4-5 days**
- **Fenbendazole @ 1-5-2 mg/kg for 5 days**
Control:

- Difficult due to abundances of intermediate hosts (Musca flies etc.)
- Regular use of insecticide, cleaning and destroying breeding ground etc.
- Regular use of therapeutic drugs as prophylaxis to control of Parafilaria spp.
THANK YOU