

Common Internal Parasites in Domestic Animals

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Roundworm



Tapeworm



Flatworm

Abstract

Introduction

As widely acknowledged, managing parasitism in domesticated animals poses significant difficulties, impacting their productivity and causing substantial socio-economic setbacks. The control of internal parasites remains an arduous endeavor, even when employing a diverse range of strategies and approaches.

The impact of internal parasites on domestic animals is influenced by factors such as the intensity of infection, age of the animals, and their stress levels. The effects of parasitism can be categorized into two distinct types: subclinical and clinical.

- Subclinical effects manifest as reduced animal productivity, including declines in milk production, weight gain, altered carcass composition, and conception rates, among others.
- Clinical effects, on the other hand, are more visible and encompass symptoms such as roughness of the coat, anemia, edema, and diarrhea, among other noticeable losses.

The internal parasitism can be seen in animals of all age groups. In young and growing calves, the coccidiosis (*Eimeria*, *Isospora*) is regularly noticed resulting into dysentery. The medications which are compelling to control or kill these helminths are known as anthelmintics.

The commonly observed internal parasites or helminths in domestic animals include: -

1. **Nematodes (roundworms):** Nematodes, commonly known as roundworms, are regarded as the most economically devastating internal parasites affecting domestic animals. These worms are characterized by their cylindrical shape and lack of segmentation, being protected by a resilient outer layer called a cuticle. Examples of nematodes include *Ascaris* and strongyles.

2. These worms usually affect camel, horses, cattle and buffaloes.
3. Cestodes (tapeworms): - They are flat or tape like, segmented worm and causes digestive disturbances, anal pruritis etc. e.g., *Taenia*, *Moniezia* etc.
These worms also affect camel, horses, cattle and buffaloes.
4. Trematodes (flatworms): - They are leaf like worm which is capable of infecting liver of any mammals particularly sheep and cattle. e.g., *Fasciola*, *Amphistomes* etc. They affect goat, sheep and cattle etc.

The parasites depending upon the position or location can be classified as: - lungworms, heartworm, kidney worm, eye worm, stomach worm etc. Their position in different organs sometimes depends upon the lifecycle of the parasites. Most of the parasites generally have one host e.g., nematodes, while other have two or more hosts e.g., trematodes.

General clinical signs

- Gut worm, if present in stomach may cause vomiting or regurgitation and if present in intestine may causes diarrhea or dysentery.
- Kidney worm, if present causes colic, nephritis and dysuria or anuria.
- Heart worm may cause occlusion of blood vessels. sometimes, if present in artery or vein cause formation of clot or thrombi. e.g., *Strongylus vulgaris* can cause clot formation in anterior mesenteric artery.
- Lung worms will cause coughing, nasal discharge and dyspnea.
- Eye worm will cause lacrimation, conjunctivitis and corneal opacity.
- In canines, most common parasite is hookworm resulting in pruritis and black color faeces.
- In equine and cattle, there is development of small nodules by filaria larvae which should be visible over the skin and causes severe itching & oozing of blood.
- In some cases, the parasite can assume the shape of a ball, resulting into intestinal obstruction.

Diagnosis

- Based on history and clinical signs.
- Based on fecal examination and fecal culture.
- Examination of sputum.
- On the basis of radiography viz Gid in goat and ultrasonography viz gut worms.

Treatment

The line of treatment will depend upon type and location of the parasite, it can be medicinal/surgical or both e.g., if the parasite is present in the lung, kidney or anterior mesenteric artery then medicinal treatment is more suitable but if the worms are present in the eye or heart then go for surgical intervention.

There are various types of drugs: -

1. Antinematodal drugs: -
 - ✓ Piperazine.
 - ✓ Avermectin group: - Ivermectin.
Doramectin.
 - ✓ Benzimidazole/Pro-benzimidazole group:
 - Albendazole.
 - Fenbendazole.
 - Mebendazole.
 - Ox fenbendazole.
 - ✓ Tetrahydropyrimidines group
 - Morantal.
 - Pyrantal.
 - ✓ Imidazothiazoles group
 - Levamisole.
 - Tetramisole.
2. Anticestodal drugs: -
 - ✓ Arecoline.
 - ✓ Praziquantal.
 - ✓ Bunamidine.
 - ✓ Salicylanilides group
 - Niclosamide.
3. Flukicidal drugs
 - ✓ Salicylanilides group
 - Oxyclozanide.
 - Rafoxanide
 - Closantal.
 - ✓ Phenol derivatives
 - Nitroxynil.

