

## SPREAD AND PREVENTION OF GOAT STRONGILIATOSIS

(Based on literature review)

**Rakhimberganov Bekzod**

Master:

### ABSTRACT

This article describes in detail the development, epizootology, disease symptoms and diagnosis of the causative agent of gastrointestinal strongylatosis of goats based on literature data.

**Keywords:** *Haemonchus contortus*, *Trichostrongylidae*, *Nematodirus filicolus*, *N.abnormalis*, *N.andreevi*, *N.oiratianus*, *N.spathiger*, *N.archari*, *N.assadovi*, *N.brevispiculum*, *N.dogieli*, *N.gazellae*, *Tchelvetianis*, *N.schulzi*, *N. Sugatini*, *N. ferganica*, *Chabertia ovina*.

### INTRODUCTION

Today, goat breeding is one of the livestock industries in the world. It supplies the population with high-quality meat, milk, and oil products, and the industry with terry products as raw materials. But there are various abiotic and biotic factors that prevent further development of such positive activities. Among these goats, gastrointestinal stongilatoses are the main cause of economic damage caused by various helminthic diseases. This, in turn, requires further improvement of the spread of this disease in the world, its epizootological situation and measures to fight against them.

**Relevance of the topic:** To improve the livestock sector in Uzbekistan, to increase the number of livestock in all economic entities, increase their productivity, fight against various infectious, infectious and invasive diseases and in the process of considering preventive measures, there are a number of reasons that prevent the improvement of this area. Among them, among the parasitic diseases found among farm animals, the spread of some helminthoses and takes an important place in terms of economic damage. Gastrointestinal strongylatosis among goats can be cited as an example of these diseases. Gastrointestinal strongylatosis of goats is a large group of diseases, Nematodosis is one of the diseases causing economic damage in animal husbandry. These diseases include hemanchosis, marshallagiosis, nematodiriosis, and habertiosis. These diseases are quite common and As a result of them, productivity is significantly reduced.

**Haemonchus-** It is a disease caused by *Haemonchus* living as a parasite in the udder of sheep, goats, cattle and other ruminants. it is characterized by clinical signs

such as loss of weight of animals, anemia and failure of digestive organs. The causative agent of haemonchosis is *Haemonchus contortus*, a filamentous, pale red nematode with large neck growths on the thinned head, and in the oral cavity, it has well-defined teeth that start from the upper (dorsal) side. In addition to the transverse stripes along the length of the body, longitudinal lines are visible. *Haemonchus* are transmitted to cattle and sheep mainly in two ways: on pasture, by eating grass infested with infested larvae, and by drinking pond water. Because the invasive larvae are more resistant to the effects of the external environment, hemocosis is widespread in goat farms. Hemonx larvae survive for 1.5 years in the dry environment and do not lose their invasiveness. Larvae die only when the air temperature is 50-60 degrees. Goats infected with haemochosis become emaciated, emaciated, and the mucous membrane becomes anemic. the functioning of the digestive organs is disturbed, as a result, the goat has diarrhea or, on the contrary, constipation. The fur of a sick goat is dry and brittle. swelling in some parts of the body, swelling under the jaw and chest. The carcass of a dead or forcibly slaughtered goat is very thin, anemic, the subcutaneous layer is not developed, white, pale-yellow, water is collected. On examination, the main changes are observed in the pus: the mucous layer of the wall of the pus is thickened, its surface is covered with a reddish mass mixed with blood, and hundreds or even thousands of haemorrhoids lie in it.[1,4]

**Marshallagiosis.** It occurs as a result of parasites living in the udder, sometimes in the small intestines of sheep and goats and other ruminants, members of the genus *Marshallagia* belonging to the *Trichostrongylidae* family and from a clinical point of view, it is characterized by symptoms of weight loss, anemia, swelling. The causative agents of Marshallagiosis - representatives of the genus *Marshallagia* are nematodes, that is, round helminths. 10 species of *Marshallagia* have been identified, of which 2 species: *Marshallagia marshalli*, *Marshallagia mongolica* are widely distributed in various regions of the globe, including Central Asia, including Uzbekistan. In the conditions of Uzbekistan, the preinvasive development of marshallages in the external environment takes 11-17 days, the preimaginal (before the appearance of adult helminths) development in the animal organism takes place for 23-28, on average 24-25 days and mature female marshallages begin to release their eggs into the environment. *Marshallagias* live in the body of a goat for one year, in some cases even more (386 days). [5]

Symptoms of the disease begin to appear in the first days after the goat is infected. In the first 5 days, goats experience numbness, in some cases an increase in body temperature by 0.5-1°C, a slight acceleration of heartbeat and breathing. Later, on the 20-25th day, the clinical signs gradually decrease and the goat seems to recover. But lethargy, weight loss, disorders of the gastrointestinal tract, sassiky, unformed feces

are observed. Goats killed or forcibly slaughtered due to Marshallagiosis are emaciated, have underdeveloped meat and subcutaneous fat layer, anemia, and swelling of the head and chest. When the animal's body is dissected, 100-200 ml is in its thorax. a yellowish clear liquid accumulates in the amount. [2,6]

**Nematodirosis**- is a chronic invasive disease of cattle, sheep, goats and other ruminants, which is caused by nematodes belonging to the genus *Nematodirus* of the *Trichostrongylidae* family living as parasites in the animal's small intestine. The disease is characterized by de-medication of the animal, weight loss, anemia and gastrointestinal disorders (diarrhea), stunted growth of goats, and in some cases, their productivity decreases. 40 representatives of the genus *Nematodirus* have been identified. Among sheep and goats in Uzbekistan, Central Asia, Kazakhstan, Transcaucasia, Siberia and the Far East, 17 species of them have been identified. 14 species of them - *Nematodirus filicolus*, *N.abnormalis*, *N.andreevi*, *N.oiratianus*, *N.spathiger*, *N.archari*, *N.assadovi*, *N.brevispiculum*, *N.dogieli*, *N.gazellae*, *Tchelvetianis*, *N.schulzi*, *N. .sugatini*, *N. ferganica* was recorded in our republic, that is, Uzbekistan, and the other two species of nematodirus - *N.nachitcmvanicus*, *N.aznivi* - were found in Azerbaijan, and another species - *N.mauritanicus* was found in Kazakhstan and Turkmenistan (D.Azimov, 1963, I.Kh. Irgashev, 1963, A. Ruzimuradov, 1967, A. Kulmamatov, 1967, Kh. Djuraev, 1971, I.Kh. Irgashev, 1973, M. Sultanov, 1975, N. Matchanov et al., 1987, V. M. Ivashkin, A. O. Oriprv , M.D. Sonin, 1989). The body of nematodirus has a thin filamentous head side, the cuticle on the head part is widened, crosswise forming a vesicle. The development of nematodirus is different from other strongyles and is unique to nematodiruses: it is known that trichostrongylides, in general, from the eggs of strongyles, I stage larvae emerge, they hatch 2 times in the external environment and turn into III (invasive) stage larvae. Another of the trichostorngilids, marshallages, is characterized by the above-mentioned "semi-opic" type, i.e., the hatching of the second-stage larva from the egg. Nematodirosis is one of the most common helminthiasis among goats. In some regions, nematodirosis is observed more often in calves. Nematodirosis is most common in goats and calves under 1 year of age and causes severe morbidity and mortality. Nematodirosis is less common in young cattle between 1 and 2 years of age, but the prevalence of infection is much higher in older goats - mother goats. This is caused by the weakening of the organism of the mother goats, a decrease in the immunobiological protection. Nematodirosis, like other trichostrongylidoses (*marshallagiosis*, *gemonchosis*, etc.), is characterized by 2 stages of clinical symptoms. These stages correspond to the stages of development of nematodirus in the goat organism and they are related to each other. At the beginning of the disease, that is, on the 2nd-3rd day, the affected animal's appetite increases, the body temperature rises by 0.5-1°C. After

5-10 days, the digestive activity of the infected animal goes out of control, it has diarrhea, it often drinks water and is restless. The body is very thin, the mucous membranes are visible (symptom of anemia), the wool is stuck to the skin, the gloss is low, in some cases the back, tail and hind legs of the animal are contaminated with liquid and smelly feces. [3,5,7]

**Habertia**- is an invasive disease typical of ruminants, including sheep and goats. It is caused by nematodes of the genus *Chabertia* belonging to the *Stroglyoididae* family living as parasites in the large intestines of animals. The disease is clinically characterized by weight loss, anemia, digestive disorders. *Chabertia ovina* (Fabricius, 1788). The body length of the *Habertia* male is 13.0-18.0 mm, the maximum width is 0.57-0.84 mm, the bursa is short, its back fin is much longer than the side fins. Spicules 1.3-1.8 mm. dark brown, each covered with a thin membrane, has a cross-striped shape. The length of female *habertia* is 14-25 mm. and the back end of the body is thinned from the place where the vulva is located to form a tail. The vulva is 0.36-0.45 mm from the posterior end of the body. The development of *Habertia* is similar to that of other geohelminths, its preinvasive development period is 16-17 days, and preimaginal development takes place in 30-60 days. The clinical symptoms of the disease are characterized by symptoms characteristic of general helminthosis - weight loss, anemia. In the first days of the disease, the body temperature of infected goats, especially goats, rises to 42 degrees, the animal becomes debilitated, the heartbeat and breathing accelerate, after 2-3 days, diarrhea becomes semi-liquid, blood is mixed, sassi dung is observed. [5,8]

During the adult period of *Habertia*, sick goats lose weight sharply, the wool becomes dull and sticky, goats eat each other's wool, wood, and walls are observed to gnaw. The body is very thin, and when it is dissected, the main changes are observed in the large intestine. The mucous membrane of the large intestine turns white, and in some places of the intestinal mucus layer, there is no epithelial layer. [8,10]

### SUMMARY

Gastrointestinal strongylatosis is a large group of diseases of farm animals, causing great economic damage to farms. From the data analyzed in the article, it became known that distinguishing the causative agents of gastrointestinal strongylatosis of goats and determining their diagnostic signs is one of the urgent issues in veterinary medicine. Taking into account that these causative agents are widespread in nature and death cases are being observed as a result of them, in our scientific work we focused in detail on the causative agents of gastrointestinal strongylatosis.

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