

DIAGNOSTICS, TREATMENT AND PREVENTION OF HELICOBACTERIOSIS IN MINK

Semikrasova A.N., Geller V.I., Kharlamov V.K.
*Scientific Research Institute of Fur Farming and Rabbit Breeding Industries,
Rodniki, Moscow Region*

Helicobacteriosis is a widely spread illness, caused by bacteria of the *Helicobacter* strain. Helicobacteriosis is an anthroozoonotic disease. Today, there are over 30 varieties of helicobacter, causing the disease in humans, mice, dogs, hamsters, monkeys, pigs, birds, cats, cheetahs, ferrets, minks and sheep (Fox J.Q., Orolet R *et al.*, 1996).

Starting in 1988 helicobacteriosis became an issue in animal breeding. Between 1988 and 2006 an infectious disease was recorded in the mink at animal breeding farms in various areas of Russia. The disease showed clinical and post-mortem characteristics of helicobacteriosis (Litvinov O.B., Semikrasova A.N., 1995; Semikrasova A.N., Litvinov O.B. *et al.*, 2007).

At present helicobacteriosis and the mortality it causes are still present at animal breeding farms in Russia. As a rule, aggravation of the disease is directly related to unfavourable environmental conditions or unsatisfactory feeding.

Helicobacteriosis in mink is a serious issue and requires a direct and systematic study of the etiology, pathogenesis, clinical and post-mortem signs as well as a development of methods of treatment and prevention.

The purpose of the current investigation was the development of an effective environmentally-safe method of diagnosis, pre-

vention and elimination of helicobacteriosis in mink.

On study of the anthroozootic situation in Russian animal breeding enterprises it was found that helicobacteriosis in mink is a wide-spread and dangerous disease and is responsible for causing significant economic loss. The prevalence of helicobacteriosis of various age groups at lower-quality farms was: before separation – 0 %, after separation – 12 %, in kits aged 3 to 4 months – 14 %, at slaughter – 8 %, in adult females – 6 %.

The post-mortem of mink with helicobacteriosis is characterised by: chronic gastritis, chronic hepatitis and chronic pancreatitis.

Chronic helicobacter-induced gastritis in mink, depending on the severity, can be characterised as being inactive, low-activity, moderate, apparent active chronic gastritis and ulcerous active chronic gastroduodenitis.

In mink with active chronic gastritis helicobacter was found in the lining of the stomach. The bacterial load of the stomach lining is in direct correlation with the level of chronic gastritis activity.

Liver helicobacteriosis, depending on the severity of the condition, is characterised by varying levels of chronic periacinar, hepatoportal and parenchymal hepatitis.

Pancreatic helicobacteriosis, depending on the severity, was characterised by various inflammations – from filled blood-vessels to haemorrhaging of the glandular parenchyma, cirrhosis, adenomere discomplexation, interruption of secretion function, microvesicular steatosis.

Changes in the stomach, liver and pancreas with helicobacteriosis are interconnected and directly correlated in accordance with the level of severity.

The selection of histological changes during helicobacteriosis in mink are characteristic of this infection and can be used as a method for diagnosing the illness with a high level of accuracy.

The histological method of diagnosing helicobacteriosis requires minimal economic expenditure. The investigations can be carried out at any comfortable time, and done with a high level of accuracy.

With the aim of finding drugs for the treatment of helicobacteriosis in mink a selection of the drugs already prescribed was tested (amoxicillin, tetracycline, furazolidone, trichopol) as well as Nifulin, recommended by the authors.

Nifulin is a ready-prepared, complex drug which includes metronidazole, oxytetracycline and furazolidone.

For the treatment and prevention of helicobacteriosis in mink Nifulin was chosen, as the more effective, environmentally-safe, economical and easy to use. The optimal treatment dose of Nifulin for mink – 360 mg/kg with feed for 5 days, once a month with a 25 day interval for three months (June to August).

The optimal dose of Nifulin for prevention was 360 mg/kg with feed once a day for three days a month for three months (June to August).