Botfly Infection in Horses

Bot Parasite Infestation in Horses

Botflies are an unfortunate byproduct of caring for horses. They are a frequent source of irritation for horses, especially during the hot months of late summer, when these flies seem to be always around.

The larvae of the botfly is referred to as a bot, and a horse that is infested with botfly larvae is said to have bots. The botfly begins by laying eggs on the outer body of the horse – on the skin of the inner legs and knees, around the chin and nose, and on the belly. In appearance, the adult botfly resembles a scrawny honeybee, with light hair on the thorax and yellowish coloring. The eggs are small and yellow-orange in color, and are attached to the hairs of the horse's body by the adult botfly. The horse then licks or bites the spot where the eggs are.

In this way the larvae are transported to the horse's mouth, where they remain for about four weeks before migrating to the digestive system. The larvae stay in the digestive tract to mature until they are ready to leave the body through the fecal contents. They then burrow into the ground to mature into adults. The entire process takes place from one season to the next, with one generational cycle taking place each year. The emergence of the adult botfly from the ground marks the beginning of the next cycle. In most states, the botfly is a seasonal nuisance that takes place from Spring through late fall, but in South Florida, the botfly has been found to remain active throughout the year.

Botfly infestation has some zoonotic characteristics, meaning that it can infect humans as well as animals. Particular care must be used when cleaning an infected horse, during removal of eggs, and afterwards during clean-up.

Symptoms and Types

- Three types of botflies:
  - Common horse bot (Gastrophilus intestinalis): eggs are laid on body, taken into mouth while self grooming
  - Throat bot (Gastrophilus nasalis): eggs are laid on neck and beneath jaw, larvae make their way into horse's mouth
  - Nose bot (Gastrophilus haemorrhoidalis) – rare: eggs are laid around lips
- Clumps of eggs on horse's body - may be orange or yellow in color
- Presence of large flies hovering near eyes, ears, and rump of the horse
- Licking of the stomach and legs
- Rubbing face or biting objects to relieve irritation in mouth
- Ulcers in and around mouth, pus pockets in gums, loose teeth
- Paralysis of the esophagus – unable to drink or eat in quantity
- Colic: large numbers of larvae in the intestine or stomach may cause blockage or stomach

ulcers – symptoms include diarrhea, soft stools, poor appetite
- Abdominal discomfort or pain from gastritis, peritonitis, or stomach rupture
- Anemia: lethargy, weight loss

Causes

- Eggs are laid on exterior of horse in the spring - fall months and left to migrate and incubate in horse intestines
- Self-grooming activities encourage eggs to hatch - larvae are ingested when horse licks and grooms itself
- Fly larvae incubate in stomach lining for up to ten months before migrating out of the body
- Larvae is passed through feces into the pasture or stable grounds, where horse is reinfected, or other horses are infected

Diagnosis

A veterinarian can diagnose bots in a horse by a microscopic examination of its feces. The larvae may also be found in the soil at pasture in places where there are multiple horses. The color of the eggs also makes them rather easy to spot as they are yellow and orange in color, a bright contrast against the skin color of most breeds of horse. You veterinarian may also find evidence of bot infestation by examining your horse's teeth and gums for ulcers, pus pockets, or loose teeth.

Treatment

Those who have horses are, or will be experienced when it comes to dealing with bots. Removal of eggs should be undertaken with great care to avoid human infection, as the botfly larvae has been found in the skin, eyes, and stomachs of humans. Eggs should be removed from the skin in order to keep the life cycle of bots to a minimum. There are some tools that are specifically designed for this purpose, such as a bot knife, which is used to scrape the side of the skin to remove the eggs without injuring the skin. With daily use during botfly season, it can drastically reduce the number of larvae that are ingested by the horse. Other helpful tools for removing eggs from the skin are clippers, for removing the infested hair, and a grooming stone/block or pumice stone.

Warm sponge washes may also be employed, especially in combination with insecticides. Again, to avoid human transmission, care must be taken, especially since the eggs will be hatching on contact with the warm liquid. When used in conjunction with an effective insecticide, however, the hatched larvae will quickly die. Your veterinarian will guide you in choosing the best external insecticide for your horse, based on your horse's state of health and age. It is important that you seek your veterinarian's approval before applying any chemicals to your horse.

Your veterinarian may also recommend internal medication for the treatment of this parasite. When the seasonal temperature has reached a point when no eggs can be laid and none have had the chance to hatch, a deworming medicine can be administered.

Living and Management

Consistent and effective practices must be put in place to ensure that bots do not become a severe problem for your horse. Whether it is by administering a dewormer, or by removing bot eggs from the exterior of your horse before they have had a chance to be internalized, the cycle should be broken as quickly as possible.

otic

Anything having to do with the ear

rump

The rear end of an animal

stent

A device that can be implanted into a blood vessel to keep it from collapsing

burro

A term for a donkey or ass

stoma

A mouth; an opening

rein

To control a horse with the reins; this includes stopping, directing, and guiding them

ova

The word for female eggs

pus

A product made of fluid, cell waste, and cells

ion

An atom that has a positive or negative charge

ark

A term usually used in the context of care for rabbits; a little structure with a ridged roof that may be used to house rabbits.

nit

An egg of a louse

lysis

The breakdown of something or the destruction of something, biologically speaking

nag

A type of horse that does not belong to a particular breed

anemia

A condition of the blood in which normal red blood cell counts or hemoglobin are lacking.

esophagus

The tube that extends from the mouth to the stomach

gastritis

A medical condition in which the stomach becomes inflamed

generation

A group of living things that were born along the same time

peritonitis

A medical condition in which the peritoneum becomes inflamed

insecticide

A chemical that kills insects by poison or fumigant

lethargy

The condition of being drowsy, listless, or weak

deworm

To get rid of parasitic worms in an animal

ingest

To take food in by mouth

digestive tract

The whole system involved in digestion from mouth to anus

genera

The plural form of the word ‘genus.’

insect

An animal that breathes air and has a head, thorax, and abdomen

infest

To attack something or take it over, as in the way ticks can infest a dog

larva

An insect that has hatched from an egg but has not yet reached the pupal stage

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