

EPM— New treatment, new hope

by **Bob Rogers DVM**

Equine Protozoal Meningitis is a neurologic disease of horses. Horses become infected with a protozoan parasite by ingesting feces from a possum or a canine. This protozoan parasite attacks the nerves and brain. This disease is very common in the Southeast US. I know of 14 CT region endurance rider's horses that have developed this disease. Two of my own horses are under treatment at this writing.

The first symptoms are tripping and incoordination of the rear legs. Muscle atrophy, difficulty swallowing, and facial paralysis can result.

Most cases of EPM are misdiagnosed and inadequately treated. The word about new diagnostic testing and treatment is slow in getting out to the Veterinary community.

The last "Updated" Consensus statement of the ACVIM on EPM was written in 2016 and now is outdated. Since that time, a plethora of research and has shed new light on the disease. The parasitology, diagnosis, treatment and prevention have all greatly improved, as has the prognosis for the horses.

EPM is caused by *Sarcocystis neurona* 40 % of the time. Another organism, *Sarcocystis fayrei* has been proven to be more prevalent (60%) and more pathogenic. The significance is; *S. neurona* does not form sarcocysts in the muscle. *S. fayrei* does form sarcocysts in the muscle. The sarcocyst of *S. fayrei* can persist longer than the typical 60-day treatment protocol. *S. fayrei* produces a toxin that crosses the Blood Brain Barrier and produces symptoms identical to those of *S. neurona*. Cerebral Spinal Fluid analysis to detect *S. fayrei* will be negative and confusing as it does not have to infect the brain for the toxin to cause nerve damage. Spinal taps are no longer the current protocol in diagnosis of this disease. *S. neurona* is spread by possum feces, *S. fayrei* is spread by dog and coyote feces. Serum tests available at Pathogenes Lab,

S. Ellison DVM, PhD can detect exposure to and differentiate the two organisms.

Marquis is an inadequate drug to treat EPM due to product failures. Decoquinatate is much more effective. The most commonly used treatments, Ponazuril, Marquis and SDM, Newbalance, are coccidio- static drugs. They only stop reproduction and rely on the body's immune system to clear the organism. In many cases these drugs do not clear the organism.

Decoquinatate is coccidiocidal. It kills the sarcosyst. It only requires a 10 -14-day treatment period, and relapses are uncommon. It is much less expensive than Marquis.

Inflammation is an important component of this disease. The current treatment protocol does not address inflammation. Low dose Levamisole is the specific anti-inflammatory for this autoimmune inflammation. It inhibits interleukin 6 and upregulates T suppressor cells. It is much more effective than an NSAID like Banamine or Equiox. If needed dexamethasone can be added.

When treated with Marquis alone recovery takes months. When treated with the combination of Decoquinatate and levamisole neurologic signs improve in 6-8 days. Less nerve damage is done and less rehabilitation will be needed.

Relapses are often misdiagnosed.

Relapse can be due to:

1. a true relapse where the organism was not completely cleared,
2. reinfection, or
3. as a sequella, an autoimmune disease - Polyneuritis.

Polyneuritis is an autoimmune disease where the horse's immune system attacks its own myelin, the lining of the nerve fibers. Myelin, which the body does not recognize as self is exposed to the immune system by the destruction of nerve cells by the parasite during the infection. Serum tests are available at Pathogenes Lab to detect anti-myelin antibodies along with elevated C- reactive protein. An elevated CRP test can help

confirm the autoimmune disease, (also available at Pathogenes Lab.)

When the relapse is due to polyneuritis, levamisole is the specific anti-inflammatory to address this autoimmune reaction.

Horses with polyneuritis treated with an antiprotozoal drug like Marguis will only get worse and often will be euthanized or die. By blocking the autoimmune reaction, Levamisole allows the nerve cells to re-myelinate. The resolution of neurological signs are often rapid (6-8 days) and recovery is possible. Dexamethasone may be added as every other day treatment when levamisole is not adequate.

Proper diagnosis and treatment can greatly improve the prognosis of a disease once thought incurable.

A Day with Dr. Susan Garlinghouse

Dr. Susan Garlinghouse will be the guest speaker in San Antonio, Texas on February 15, 2020 for the NATRC National Convention at the Hotel Valencia on the Riverwalk. Dr. Garlinghouse is a renowned equine vet and distance rider with tremendous knowledge to share on many of the unique health and maintenance issues faced by the distance horse and its rider whose priority is to bring home a healthy horse. Several topics including hydration, gut motility, nutrition and supplements, how to feed pre and post ride, and more will be presented from 8 a.m. to 4 p.m.

For more information contact **Fran Muench** by email at franmuench@yahoo.com or call/text (281) 728-3616. The fee for the day is \$50 per person in advance or \$60 at the door.

TERA Dues are Due

Our next year begins Dec. 1. Please use the website, email, regular mail or in-person delivery to get your 2020 dues paid to **Russell Betts, TERA treasurer** (see page 2).