

EPM Explained

By Dr. Clara Fenger

I RECENTLY COMPLETED A PH.D DISSERTATION FOCUSING ON AN EQUINE NEUROLOGICAL DISEASE THAT HAS GAINED GREATER AND GREATER NOTORIETY IN THE HORSE INDUSTRY: EQUINE PROTOZOAL MYELOENCOEPHALITIS, OR EPM. THIS UNIQUE TOPIC OF STUDY YIELDED A LOT OF NEW INFORMATION ABOUT THE DISEASE, INCLUDING THE SOURCE OF EQUINE INFECTION (THE OPPOSUM), AND A NUMBER OF PREVIOUSLY UNIDENTIFIED SYNDROMES THAT ACCOMPANY THE DISEASE. AS A RESULT OF MY RESEARCH, I NOW CONSULT WITH OWNERS ACROSS THE COUNTRY ABOUT NEUROLOGICAL DISEASE AND SPECIFICALLY EPM.

Signs of Something Wrong

One such phone call came from Chuck Winner, a California Thoroughbred owner. He had concerns about two of his horses that “just weren’t training right.” This scenario was typical of the phone calls I receive. Horses that are profoundly



affected with EPM don’t generate the most questions. Severe EPM is uncommon, and often progresses to death. Mild EPM, on the other hand, begins by affecting the way that horses train. Mild breathing problems, “locking up” of the stifles, or weakness of the rear quarters can be associated with mild, early EPM. If left untreated, this progresses to a moderately affected horse that may be uncoordinated, profoundly weak, or have marked muscle wasting.

After discussing Chuck Winner’s horses by

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In the meantime, another of our horses began to display similar symptoms. This was a Dixieland Band colt that David Bienstock and I had purchased at the '95 Barretts sale. Unfortunately, this horse also tested positive for exposure. When Dr. Fenger arrived, she conducted spinal taps on both horses. Both were infected with EPM.

Now the long and expensive process of attempting to heal the horses began. All along, we never knew whether either horse would make it back to the races. Nearly a year has gone by, and the first horse is back in training. The Dixieland Band colt never recovered to the point of being a decent racehorse, so, after a year of retirement, we gave the \$65,000 colt away to a good home.

There are some lessons in all of this. Everyone knows that buying a horse is risky, but EPM makes it even more so. EPM is hard to detect and can be masked by the seller. I now make sure that Dr. Fenger looks at any horse I consider buying at auction. I recommend that other owners consider having their vet evaluate a potential purchase.



Because EPM is carried in the feces of possums, another lesson is to do what you can to keep the stable area free of the rodent. Your trainer can keep things like garbage and cat food, which attract possums, especially at night, away from the horse's food or bedding.

The most important lesson is that owners should work together to share experiences and information about EPM, a disease that affects

some of the yearlings and two-year-olds we buy. Some consignors may feel that they are at an advantage by putting wraps on the EPM story. But we, as buyers and owners, are the losers when knowledge about EPM is stifled. It is to our advantage to engage in an open and honest discussion of the disease.

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phone, we decided that the information was sufficient to warrant further investigation. I came to California and met the legendary Bill Shoemaker, which was a thrill for me, a longtime horsewoman. Two of Chuck's horses were identified as possible candidates for EPM. Unfortunately, the



only method that can be used to determine if a horse has EPM is the testing of cerebrospinal fluid (CSF). Blood tests can determine whether a horse has been exposed, but since most horses test positive by the blood test at one time or another, they are simply inadequate. Testing CSF is highly conclusive for the disease, although testing in the first few weeks of disease may yield a false negative result, and blood contamination of the CSF sample may yield a false positive. Fortunately, these problems are uncommon, which makes the CSF test very valuable for the diagnosis.

Treatment of EPM

Both of Chuck's horses tested positive for EPM. Both were started on treatment for EPM, including pyrimethamine (1 mg/kg, once daily) and sulfadiazine (20 gm/kg, once daily). After long-term treatment with these medications, there are several potential adverse side effects that can occur, including low blood cell counts, depression, and poor appetite. Several different treatments, including folic acid supplementation (40 mg a day), Nutrient Buffer, and other antacid preparations, have been used to treat these side effects.

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About 70% of horses with EPM improve and are able to return to normal function, as long as they are treated for a sufficient duration of time. Other horses may require lifetime treatment for EPM, and some fail to return to normalcy. The prediction for which horses will come back and which ones will not is difficult to make, and is related to how quickly the horse responds to treatment. If the affected horse fails to show some response within the first few weeks of treatment, the prognosis is poorer than in the case of an early response. One of Chuck's horses with EPM responded quickly. The other failed to respond and never returned to normal racing performance.

The correct duration of treatment is not known. The most common recommendation is to treat for at least three months, or four weeks beyond resolution or plateau of clinical signs, whichever is longer. My own recommendation is to treat until a repeat of CSF tap tests negative. This is based on a small study as part of my dissertation research of 12 EPM horses that were treated until the CSF tested negative. Of these horses, the disease did not relapse in any case, although two horses failed to return to complete normalcy.

Relapses Can Occur

The issue of relapse is also an important area of concern. Horses that are not treated for a sufficient duration of time may relapse after the treatment is discontinued. Worse yet, this second round of disease is often more difficult to treat because the protozoal infection becomes somewhat resistant to the drugs, and the infection is harder to treat. Some horses have required more than 16 months of treatment after a relapse. The decision to discontinue medication should not be taken lightly.

In conclusion, EPM is a treatable disease with most horses being able to recover and return to their previous level of performance. The important factors to remember when dealing with EPM is to identify the disease in its early stages, and treat it diligently and completely.

Dr. Clara Fenger received her DVM from the University of California, Davis, and her Ph.D from the University of Kentucky. Her research on EPM has led to the discovery of the source and diagnosis of the disease. She may be contacted at (606) 273-6696. 🐾

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