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EPM stands for *equine protozoal myelitis* and while it may mimic West Nile Virus in its symptom of *ataxia*, common among neurological challenges, it is a very different disease.

Cause

The underlying cause is apparently a protozoan parasite called *sarcocystis neurona*, harbored by opossums and transmitted via certain species of birds. When opossums urinate and defecate on hay or grain, the parasite is ingested by the horse. Interestingly, many veterinarians are coming to the conclusion that the equine Herpes virus (*Rhino Pneumonitis Neurotrophic Herpes Syndrome*) and EPM are frequently found to coexist.

Symptoms

Initially the horse may act depressed and unwilling to work. Next, many will indicate hyper-excitability and behavioral problems such as bucking, head tossing and emotional symptoms. It is usually not fully apparent that a problem, rather than an attitude, exists until *ataxia*, rear end weakness and uncoordination, presents itself along with perhaps a sore back. Severe, and generally irreversible, neurological damage will have occurred by the time rear end *atrophy* (muscle wasting) resulting in dog-sitting behavior, and sometimes a lack of control over the front limbs as well, is evident.

Diagnosis

The only definitive test for EPM is a *cerebrospinal fluid tap*. By the time a tap is positive, the blood/brain barrier has been breached and major neurological damage will have taken place. The available blood test, necessary to rule out other diseases such as WNV, confirms the presence of antibodies to the parasite showing that exposure has occurred. Many, if not most, of such *seropositive* horses do **not** develop the EPM syndrome.

Treatment

Standard veterinary therapy usually consists of months-long aggressive treatment with *pyrimethamine* and sulfa drugs. A few horses recover completely, some recover but with impairment, and

some may never recover depending upon the extent of the damage done.

HOLISTIC APPROACH

Since opossums have been around horses probably since horses became domesticated, we have to ask why EPM has only recently become so widespread. And since we know from the scientific community itself that most sero-positive horses do **not** develop EPM symptoms, what then is the difference between horses exhibiting symptoms and the vast majority of those who do not? We think this indicates, as with much disease, a compromised immune system. So how do horses get compromised immune systems? Perhaps the answer lies with some modern horse management practices such as over-worming, over-vaccination, over-feeding and under-nutrition.

Immune System

Strong immune systems are vital for health. The primary enzymes that control immune response are *superoxide dismutase* (S.O.D.) and *glutathione peroxidase*. These enzyme systems have trace minerals, primarily copper and zinc, at their core. Dr. Marvin Cain states,

“The pharmacologic approach [drugs] does not kill the EPM organism. Definitive control is dependent upon the immune system. Compromising the immune system with stress, whether environmental, nutritional, emotional, pharmacologic in the form of repeated vaccinations or corticosteroids given in sufficient quantities to cause white cell suppression, can with all or any cause exacerbation of the immune system.

What does this all mean? Simply that our focus must shift from treating symptoms which is becoming outrageously costly, to say nothing about the extreme problems that the animals must endure, to maintaining the integrity of the immune system. We are not going to kill the Herpes or EPM organisms. We can coexist with them as long as the immune system is healthy.”

Digestive System

The first and best line of defense against any ingested parasite or bacteria is healthy stomach acid

and thriving beneficial bacterial colonies which require that the parietal cells of both stomach and intestine be bathed in an alkaline medium. In fact, the digestive system is the first line of defense against numerous illnesses and needs to be nurtured.

Nature provides perfect alkaline support with plant-based bio-available minerals. It is the special chelation process within plants which turns "dirt", or inorganic, minerals (carbonates, oxides, & sulphates), which are unavailable and acidic to equine systems in larger quantities, into organic substances able to penetrate the cellular walls for biological use. Unfortunately most equine supplements only provide the inexpensive inorganic forms without the necessary organic balance.

Other common acidifying equine foods include high protein and grain feeding. A biologically appropriate protein level of 12% is found in a natural grass-based diet. Leguminous hays such as alfalfa frequently fall into the 18% protein level as do numerous fortified feeds. Also, over-feeding of grain is paramount in acidifying the digestive tract leading to parasitic and bacterial overload and even colic and ulcers. A 1988 study concluded that stomach acidity was 60 times greater in grain fed horses than in those fed only hay.

Common Sense Answers

Most important is to support digestion and the immune system by feeding a species-appropriate diet of free choice grass hay, ample water, and the alkalinizing **DYNAMITE** free-choice minerals, properly chelated and properly balanced, of **NTM Salt**, **Izmine**, **1 to 1** and **2 to 1**.

To further aid proper alkaline pH balance thus ensuring optimum digestive capabilities via healthy beneficial bacterial colonies, provide daily **DynaPro** either on the feed or in the water.

Provide extra nutrient supplementation to help balance modern-day imbalances in hay and pasture. Choose either the **DYNAMITE Regular** (1 oz), **Plus** (2 oz), or the 6-in-1 **TNT** (1½ cups); all are handy pellets that can even be eaten out of hand in amounts ranging from the minimal amounts suggested for pasture potatoes to commensurately more for growing, lactating, campaigning, etc.

When grain is necessary for horses who can handle it, feed only minimal amounts. Dr. Joe Pagan of Kentucky Equine Research recommends only .03% of the horse's weight per feeding which equals only 3# per 1,000# horse. Instead of common

sweet feed mixes, he suggests plain whole oats or steam rolled corn/barley. For the cleanest, most nutritious grain possible, try **DYNAMITE PGR** pellets and for those horses who should not consume grain at all yet require extra caloric values, **HES** pellets, containing no carbohydrates, are our choice.

For horses faced with the added stressors of training, campaigning, vaccinating, etc., we suggest 10 day doses of **Hiscorbadyne** with its immunostimulant properties of Ester-C® (Vit C). Dark skinned horses, whose copper requirements are higher than normal, do well with quarterly rounds of **SOD**. The chelated copper, manganese and zinc promote the body's own production of the **SOD** enzyme, which is the best immune booster possible. In fact, many distributors regularly give their equine athletes a 10-day round of **SOD** when they know the animal will be campaign stressed.

Rather than acidifying the body with toxic deworming chemicals, we choose to utilize **Herbal Tonic** if fecal counts get over 200. In our experience, this rarely occurs when all the rest of the program has been followed for about 2 years. We also suggest the bare minimum of vaccinations and never double stressing such as vaccines and worming on the same day or riding/hauling at either time.

Specifics

Many horses diagnosed with EPM have done superbly on the above suggestions plus:

- **MSM** at 16 tsp per day (bioavailable sulfur)
- 2 cloves fresh garlic (sulfur)
- **Ester-C®** or **Hiscorbadyne** following label directions (Vitamin C)

These nutrients *can* be given along with veterinarian-prescribed antibiotics and sulfa drugs if one chooses. However make sure to give **DynaPro** at least an hour afterwards to help re-establish the gut bacteria. Homeopathic sulfur can also be helpful.

There is a little trick for checking horses with suspected EPM so treatment can begin long before doing a spinal tap. Carl Nafziger, trainer of Kentucky Derby winner Unbridled, found an **accupressure test point**: it is behind the patella (stifle joint) and the lateral condyle of the femur, over the tibialis nerve and between the bellies of the biceps femoralis muscle. Light pressure there causes an extreme pain reaction if EPM is present.

EPM NEED NOT BE a death sentence; perhaps these hints can make a difference for your horse. ■