Exertional Rhabdomyolysis "Tie-Up"

Note:

Please call EVC with any questions or concerns. As with any medical problem, complications can develop and early intervention can help return your horse to health more rapidly.

Description

Exertional Rhabdomyolysis is a systemic disease of variable severity involving the rupture of muscle fibers primarily in the hindquarters. Without adequate treatment and differentiation of causes, the disease can progress into a cyclical issue with decreased performance as a result or more severe complications such as chronic myositis (muscle inflammation) or renal (kidney) failure.

Causes

Metabolic

*Electrolyte: Electrolyte imbalances involving molecules such as Potassium (K), Sodium (Na), Chloride (Cl), Calcium (Ca) or Magnesium (Mg). Diagnostic tool: Serum chemistry.

*Endocrine: Hypothyroidism. Diagnostic Tool: Serum T4.

*Systemic Disease: Diagnostic tool: Full physical examination and routine CBC/Fibrinogen.

*Hormonal: Filly or mare in estrus. Therapeutic option: Stimulate follicular ovulation with Chorulon (hCG) or Desorelin / Cystorelin (GnRH) followed by controlling reproductive cycle with Regumate (Altrenogest).

Musculoskeletal

*Muscle: Abnormal Calcium cell membrane metabolism. Therapeutic option: Dantrium (Dantrolene) or Phenytoin.

*Unsoundness: Secondary musculoskeletal compensation in even the most mildly lame horse can cause undue stress. Diagnosis and treatment of the primary lameness is essential.
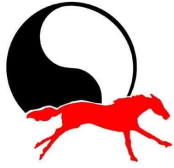
Psychologic

*Nervous or "high-strung" horses are more prone to "Tie-Up". Therapeutic option: Daily tranquilization with Acepromazine or long-term management with Reserpine or Fluphenazine.

*"Monday Morning Syndrome" a term taken from a similar disease in draft horses. Therapeutic option: *Gradual* increase and decrease in exercise intensity and duration is essential throughout the week for predisposed horses.

Treatment - Acute

*If patient is comfortable enough to allow it, continue walking slowly and cooling out normally… if not, allow patient to quietly cool out in stall.

***Veterinary Examination**

***Medications** depending on severity:

All based on approximately 1000-1100# patient

Please ask veterinarian for current regulatory withdrawal times

NSAIDs: **Banamine** 500mg (10 ml) IV

Tranquilization/Vasodilation: **Acepromazine** 10-20mg (1-2ml) IM

Sedation and Analgesia: **Butorphanol** 5-15mg (0.5 – 1.5ml) IM

Muscle Relaxation: **Robaxin** 1-5g (10-50ml) IV

***Bloodwork** focusing on CK and AST enzyme levels 4 hours post-episode and again in 24 and/or 48 hours.

***Fluid Therapy:**

Oral – Nasogastric intubation with warm water and electrolyte powder.

Intravenous – Catheterize and administer 10-60 Liters over 1-6 hours.

Treatment - Chronic

*Dietary Options

*High fat / protein and Low carbohydrate diet, i.e.:

* Supplement up to one cup of **Rice Bran**, **Amplify,** Corn or Vegetable oil as top-dress on feed (monitor for palatability).

* **Remove Alfalfa** from diet, add additional grass hay.

* Consider switching grain ration to **RE-LEVE**, **Ultium**, or similar complete pelleted low soluble carbohydrate / high fat feed specifically designed for horses that "Tie-Up".
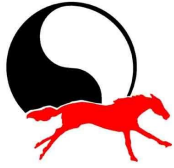
*Daily Dietary Supplementation
- **Nano E**: Vitamin E
- **Preserve PS**: Vitamin E, Selenium, Vitamin C & Magnesium
- **Restore**: Balanced electrolyte powder in feed and/or water or as paste post-exercise
- **"Light Salt"**: Potassium Chloride (KCl)
- **Thyro-L**: use with diagnosed hypothyroidism

*Daily Medication Options
- **Acepromazine** 1-2, 25mg tablets orally or up to 2ml IV 15 minutes prior to exercise
- **Naproxen** 10, 500mg tablets orally two times per day and taper
- **Robaxin** 5-10, 750mg tablets orally two times per day
- **Phenytoin** 10, 100mg tablets orally two times per day
- **Dantrolene** 3-4, 100 mg scoops 3 hours prior to exercise without food
- **Banamine** 500mg IV to breeze
- **MgSO4** (Magnesium Sulfate) 25-50 ml to breeze

*Training Considerations
- *Minimize or avoid Furosemide (Salix) use altogether if electrolyte imbalance is a suspected cause
- *Monitor CK / AST levels post-breeze
- *Ensure proper hydration