Equine Rabies: What Every Horse Owner Should Know

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Overview

- What causes Rabies
  - Statistics and Epidemiology
- How does my horse get Rabies?
- Clinical Signs of Rabies
- Diagnosis
- Treatment?
- Vaccination
- Prevention of Rabies

Rabies Virus

- Acute fatal viral disease
- Genus Lyssavirus, family Rhabdoviridae
- Bullet shaped RNA virus
- Two genotypes
  - 1- Classic (fox, raccoons, skunks, etc.)
  - 2 – Bat variant
- Worldwide distribution except UK, Ireland, Australia, NZ, Iceland, Scandinavia

Rabies Statistics

- More than 55,000 people die of rabies each year, about 95% of the deaths are in Asia and Africa*
- In 2008, 6,841 cases of rabies in animals were reported in the US and 2 cases in humans**
  - 93% were wildlife (raccoons ~ 34.9%, bats, skunks, foxes)
  - 7% domestic animals (cats ~ 4.3%, dogs ~ 1.1%)
*World Health Organization; ** CDC

Rabies in Horses

- From 2005-2006, rabies cases in horses and mules increased 12.8% (Blanton et al)
  - But decreased by 20% in 2007 (42 horses in US)
- Since 2006, 8 horses in Florida have died from rabies
- FATAL in all mammals with clinical signs
  - 1 human survivor (2004) with no vaccination
- Death occurs in 3-7 days once signs develop

Common Risk Factors for Horses

- Live in an endemic area
- No vaccination
- Horse lives outside 24 hours/day
- Young > old
- No breed or gender predisposed
- Typically affects one horse on a farm
Who Can Get Rabies?

- **ZOONOTIC!**
- Horses and other domestic livestock
- People
- Dogs, cats
- Any mammal that is exposed to rabies may become infected

Clinical Signs of Rabies

- Can look like anything!
- Behavioral changes, blindness
- Ataxia and incoordination
- Fever
- Hypersalivation
- Paresis to Paralysis
- Difficulty swallowing
- Colic
- Obscure lameness
Rabies

2 Forms of Rabies

- **FURIOUS**
  - Less common
  - Animal may become hyperexcitable, fearful, or enraged
  - May exhibit aggression
  - Hyperesthesia (increased sensitivity to stimuli)

- **DUMB or STUPOROUS**
  - Mental depression
  - Inappetance
  - Head pressing
  - Circling
  - Flaccid tongue, tail, anus

Clinical Signs

- Limb weakness & ataxia
  - Symmetric
  - Worse in pelvic limbs
- Tail weakness
- Perineal analgesia
- Bladder distension or incontinence
- Head tilt, facial paralysis (rare)
- Seizures (rare)

Other Diseases Can Look Similar

- EEE, WEE, VEE
- West Nile Virus
- Equine Herpesvirus
- Hepatic encephalopathy
- Space-occupying mass
- EPM
- Colic and Others

Diagnosis of Rabies

- No definitive ante-mortem test in animals
- Blood tests not specific
- CSF fluid analysis
  - May be normal
  - Xanthochromic (yellow color)
  - Mononuclear pleocytosis
  - Increased protein
Diagnosis of Rabies

- Best test – post-mortem exam of brain
  - FA on brain
  - Negri bodies seen on histopathology

Human Exposure to Rabies

- Saliva and brain/nervous tissue are considered infectious material that can transmit rabies
- Petting or handling an animal, or contact with blood, urine or feces does NOT constitute an exposure
- Bite wounds should be IMMEDIATELY washed with soap and water, and a physician should be contacted

Human Exposures

- BITE Exposures
  - Any penetration of skin by teeth
  - ALL bites represent a risk for transmission
- NONBITE Exposures
  - Virus can enter through open wounds or cuts in skin, abrasions, or direct contact with mucous membranes such as mouth or eyes
  - Very rarely cause rabies, but should be evaluated

Treatment of Rabies in Animals

- No curative treatment
- Euthanasia is recommended in cases with clinical signs of disease

Treatment of Rabies Exposure in Un-vaccinated People

- Post-exposure prophylaxis
  - 5 doses IM vaccine
  - Day 0, 3, 7, 14, and 28
- Rabies Immune Globulin
  - Infiltrated around wound
  - Injected IM
  - One dose

Rabies Vaccination in Horses

- The National Association of State Public Health Veterinarians recommends vaccination for all livestock in frequent contact with humans, and specifically horses that travel interstate
- AAEP (American Association of Equine Practitioners) considers Rabies a CORE Vaccine
Rabies Vaccination
- Inactivated Vaccines – all induce a strong serologic response
  - Intervet, Fort Dodge, Merial, and Pfizer
  - Most labeled for one dose at 3-6 months and 2nd dose at 1 year
- EquiRab® (Intervet) labeled for one dose primary immunization and 14 months efficacy
  - Labeled for use in foals 4 months and older
- All horses should be annually vaccinated by a veterinarian
- Boost pregnant mares prior to breeding or foaling

Rabies Vaccination of Foals
- In foals of vaccinated mares, start at 6 months and give 2 doses, then redose at 1 year of age
- In foals of unvaccinated mares, can start as early as 3 months – 2 doses likely to induce more durable immunity

Can a blood titer be used in place of vaccination in horses?
- Titers have not been demonstrated to correlate directly with protection due to other immunologic factors that play a role in preventing rabies
- The CDC feels that circulating antibodies in animals should NOT be used as a substitute for vaccination

What if my horse is bitten by a rabid animal?
- IF they have been vaccinated:
  - Revaccinate immediately
  - Observe for 45-90 days
  - Contact list
- IF they have NOT been vaccinated:
  - Euthanize
  - Isolate and observe for 6 months, if signs develop then euthanize immediately and test
  - Contact list

Rabies Suspects
- Call vet ASAP
- Quarantine horse
- Keep a list of all exposed people
- Wear protective equipment when handling
  - Gowns, gloves

Rabies Prevention
- Vaccination is highly effective
- Protection cannot be guaranteed
- Minimize contact with wildlife whenever possible
- Secure garbage containers and remove trash
- Do not leave pet food outside
In Summary

• Rabies is a fatal and zoonotic disease
• If you suspect rabies, contact your veterinarian
• Vaccinate your horse yearly
• Minimize exposure
• Thank you!