

# **Outbreak of neurological disease caused by EHV-1**

**May 15<sup>th</sup>, 2011**

## ***URGENT RESPONSE INFORMATION AND RESOURCES***

Currently, there are numerous reports of equine herpesvirus myeloencephalopathy (EHM) affecting horses and farms in Colorado and several other Western states. This outbreak appears related to initial cases at a Cutting horse show in Ogden Utah, which was held from April 29<sup>th</sup> – May 8<sup>th</sup>. Horses at that event may have been exposed to this virus and subsequently spread the infection to other horses. While the true extent of this disease outbreak is uncertain, there is clearly a very significant elevated risk of EHM cases at this time. At this time control of the outbreak is critically dependent on biosecurity. We want to address four Frequently Asked Questions in this document:

### **1. How do we handle horses returning from events where they may have been exposed to this infection?**

- For horses that may have been exposed to the risk of infection, there are some steps to take to mitigate the risk at their home facility. Even if these horses are returning home from events at which no disease was reported, and even if these horses appear healthy, precautions are needed at this time as these horses could bring it home and spread it at their home farm – this is the classic way this disease spreads:
  - These horses should be isolated from any other horses when they return to their home facility. Isolation requires housing them away from other horses, using different equipment to feed, clean and work with them that is used with any other horses, and rigorous hygiene procedures for horse handlers (hand hygiene, wearing separate clothes when contacting the horses, etc.). Please discuss this with your veterinarian.
  - We strongly advise owners to call their vets to discuss how long to keep the horses isolated at home, but even if they don't develop fevers this should be at least 14 -21 days.
  - These horses should have their temperature taken twice a day, as temperature is typically the first and most common sign of infection – horses with elevated temperatures (101.5 F or greater) should be swabbed by your vet to find out whether they are shedding EHV-1.
  - If a horse develops a fever and is found to be shedding EHV-1 then the level of risk to other horses on the premises increases significantly. Those affected farms should work closely with their veterinarian to manage that situation, if it develops.
  - The AAEP has published an extensive set of “Infectious Disease Control” guidelines on its website, in the member section, that can be used for a more detailed response.

### **2. What do we do if we already have a potentially exposed horse on a farm?**

- It still makes sense to isolate this horse from other horses, even though it may have already been in contact with them, start isolation procedures to stop further exposure. It is very important to not mix horses from different groups to accomplish this. Try and isolate the

suspect horse without moving other horses from one group to another – segregation of horse groups is the key, because this will help you reduce spread if an outbreak starts.

- Check temperatures of all horses on the farm twice daily (fever spikes can be missed if you check once daily). If fevers are detected, then test for EHV-1.
- The value of starting healthy horses on anti-viral treatment when there is no evidence of disease on the farm is questionable. The treatment is expensive, the drug (Valtrex™ - valacyclovir) may have limited availability, and prophylactic therapy against EHM will only work while drug is being administered. Therefore it is more likely to be effective if administered when fever is first detected (see below).

### **3. What anti-viral treatments can I use against EHM on a farm?**

- If EHM is present on a farm, then the risk to other horses at that farm is greatly increased. Stringent quarantine and biosecurity procedures must be implemented immediately.
- Treatment of horses with clinical neurological disease (EHM) is largely supportive – the use of anti-viral drugs is not known to be of value at this stage. Use of anti-inflammatory drugs is recommended: flunixin meglumine (0.5 to 1 mg/kg, IV, q 24 hours).
- For horses on the farm that develop fever, test EHV-1 positive, or have a high risk of exposure, anti-viral drugs may decrease the chance of developing EHM.
- Currently, the treatment of choice in a febrile EHV-1 infected horse to prevent the development of EHM is Valacyclovir (Valtrex™), given orally. The use of oral acyclovir is unlikely to be of any value, as it is not absorbed from the GI tract.
- We currently recommend Valacyclovir (Valtrex™) for prophylactic therapy at a dose of 30 mg/kg q 8 hr for two days, then 20 mg/kg q 12 hr for 1-2 weeks. Maintain on higher dose rate if the horse is still febrile. This is an expensive drug, and daily treatment costs can typically be \$20-300 per day. Generic forms of Valacyclovir may be available, and may be marginally cheaper.
- The use of Valacyclovir in horses that have already developed signs of EHM is questionable at this time, in that circumstance the use of intravenous Ganciclovir is preferable as it may have greater potency against the disease. The dose of Ganciclovir is 2.5 mg/kg q 8 hr IV for one day then 2.5 mg/kg q 12 hr IV for one week.

### **4. Is there any value to using booster vaccination against EHV-1 at this time.**

- Unfortunately, there is no evidence at this time that current EHV-1 vaccines can prevent EHM.
- The more potent EHV-1 vaccines have been shown to reduce nasal shedding and in some cases reduce viremia. These products may therefore have some theoretical value against EHM (by reducing viremia), and certainly against spread of the virus.
- The more potent EHV-1 vaccines include: Rhinomune<sup>®</sup>, *or* Calvenza™ EHV, Boehringer Animal Health; Pneumabort-K<sup>®</sup>, Pfizer Animal Health; Prodigy™ Intervet Schering-Plough Animal Health.
- If horses on the farm are previously vaccinated against EHV-1 then booster vaccination should quickly increase immunity, and perhaps reduce spread of EHV-1 if it is present.

- Vaccination in these circumstances is controversial, as some authorities speculate that immunity to EHV-1 may play a role in the development of EHM. While this is unproven, it remains a possibility. The use of vaccination is therefore a risk-based decision.

Additional sources of information are listed below. Until we know more about this outbreak, caution is recommended at all times to reduce spread of infection. Movement of horses on and off farms should be limited whenever possible.

## **Sources of information:**

### **Brochure you can give to clients:**

[http://www.aphis.usda.gov/vs/nahss/equine/ehv/equine\\_herpesvirus\\_brochure\\_2009.pdf](http://www.aphis.usda.gov/vs/nahss/equine/ehv/equine_herpesvirus_brochure_2009.pdf)

### **Websites with well organized EHV-1 information:**

University of California, Davis, School Vet Med – detailed and practical information about handling sick horses, diagnostic testing, and control

[http://www.vetmed.ucdavis.edu/ceh/ehv1\\_general.cfm](http://www.vetmed.ucdavis.edu/ceh/ehv1_general.cfm)

### **Background paper:**

ACVIM EHV-1 consensus statement – current detailed information about the virus, neurological disease, and control.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1939-1676.2009.0304.x/pdf>

*D. Paul Lunn, Lutz Goehring & Paul S. Morley  
Department of Clinical Sciences  
CVMBS*