Equine Viral Arteritis (EVA)

Equine viral arteritis (EVA) is an acute, contagious, viral disease of equids caused by equine arteritis virus (EAV). Typical cases are characterized by fever, depression, anorexia, leukopenia, dependent edema, conjunctivitis, supra- or periorbital edema, nasal discharge, respiratory distress, skin rash, temporary subfertility in affected stallions, abortion, and infrequently, illness and death in young foals.

Epidemiology

- EAV found in most countries
- May be absent from Iceland and Japan
- Prevalence
  - Varies by breed from (24%) to (0.6%)
- Infected stallions: 10-70% become EAV carriers
- Outbreaks uncommon
- Severity of disease varies (Young and old most affected)
- Asymptomatic infections common
- Abortion rate <10% to 50-60%

Transmission

- Respiratory
  - Common where horses gather
    - Racetracks, sales, shows
- Venereal
  - Acutely infected mares
  - Acutely and chronically infected stallions
- Fomites (Equipment)
- Mechanical transmission (Humans, other animals)
  - Semen remains infectious after freezing
- Equine viral arteritis virus is not a risk for people

Species Affected: Equidae, Horses, Ponies, Donkeys, Zebras and camelids (possibly)

Clinical signs in horses:

- Many infections asymptomatic
- Mares bred to long-term carriers
- Severe infections characterized by:
  - Respiratory, enteritis (Most common in foals)
- Disease in adults
  - Fever, depression, anorexia, Edema, Conjunctivitis, photophobia, periorbital or supraorbital edema and rhinitis can also be seen.
- Pregnant mares
  - Abortion

  - Stillbirth
- Stallions
  - Decreased fertility (acute stage)
    - Reduced sperm quality
    - Caused by increased scrotal temperature and edema with Decreased libido

Post Mortem Lesions

- Edema, congestion, hemorrhages, Fluid accumulation in body cavities, interstitial pneumonia, splenic infarcts, enteritis. Endometrial hemorrhages, Fetuses may be partially autolyzed

Diagnosis

- Virus isolation: Semen (carrier stallions)
- Nucleic acid detection: RT-PCR
- Antigen detection:
  - Immunohistochemistry
  - Histopathology
- Serology

Differential Diagnosis

- Equine influenza
- Equine infectious anemia
- African horse sickness
- Equine rhinitis A and B viruses
- Equine adenoviruses
- Equine herpesviruses 1 and 4
- Purpura hemorrhagica

Prevention and Control ((IMMEDIATELY notify authorities**))**

- Venereal transmission
  - Separate pregnant mares from other horses
  - Isolate new arrivals
  - Breed carrier stallions only to well-vaccinated or seropositive mares
- Vaccination
  - Protects uninfected stallions. Vaccinate before breeding season
- Carrier stallions
  - Physically isolate from uninfected horses
  - Clean and disinfect fomites
  - No proven method to eliminate chronic infection
  - Some areas m+ay require testing and identification