

Vesicular Stomatitis

Vesicular Stomatitis Virus

- RNA Vesiculovirus
 - Family Rhabdoviridae
 - Major serotypes
 - VSV-NJ and VSV-I
- Affects horses, cattle, swine, camelids, humans
 - Sheep and goats resistant
- Closely resembles exotic vesicular diseases including FMD

Epidemiology

Morbidity/ Mortality

- Morbidity
 - Range: 5 to 90%
 - Most animals seroconvert
- Mortality
 - Higher in adults
 - Death rare in cattle and horses

Transmission

- Vectors
 - Sandflies
 - Blackflies
 - Seasonal outbreaks
- Direct contact
 - Infected animals
 - Contaminated objects

Clinical Signs

- Incubation period
 - 3 to 5 days
- Fever and vesicles that resemble FMD
- Horses severely affected
 - Oral lesions
 - Drooling, chomping, mouth rubbing, lameness
 - Coronary band lesions
- Cattle, pigs
 - Vesicular lesions
 - Oral, mammary gland, coronary band, interdigital region
 - Usually isolated to one body area
 - Salivation, lameness
- Recover within 2 weeks

	Foot & Mouth Disease	Vesicular Stomatitis
Clinical Signs by Species	All vesicular diseases produce a fever with vesicles that progress to erosions in the mouth, nares, muzzle, teats, and feet	
Cattle	Oral & hoof lesions, salivation, drooling, lameness, abortions, death in young animals, "panthers"; Disease Indicators	Vesicles in oral cavity, mammary glands, coronary bands, interdigital space
Pigs	Severe hoof lesions, hoof sloughing, snout vesicles, less severe oral lesions: Amplifying Hosts	Same as cattle
Sheep & Goats	Mild signs if any; Maintenance Hosts	Rarely show signs
Horses, Donkeys, Mules	Not affected	Most severe with oral and coronary band vesicles, drooling, rub mouths on objects, lameness

Post Mortem Lesions

- Gross lesions
 - Erosive, ulcerative lesions
 - Oral cavity, nostrils, teats, coronary band
- Histopathology
 - Degeneration of epithelial cells

Differential Diagnosis for Vesicular Stomatitis Virus				
	Cattle	Swine	Sheep	Horses
FMD	x	x	x	
Swine Vesicular Disease		x		
Vesicular Stomatitis Virus	x	x	x	x
Vesicular Exanthema of Swine		x		
Chemical burn	x	x	x	x
Thermal burn	x	x	x	x
Rinderpest	x			
IBR	x			
BVD	x			
Malignant Catarrhal Fever	x			
Bluetongue	x		x	
Contagious Ecthyma			x	
Lip/Leg Ulceration			x	
Foot Rot	x		x	

Clinical Diagnosis

- Vesicular diseases are clinically indistinguishable!
- But, symptoms in horses are suggestive
 - Salivation and lameness
- VSV vs. FMD
 - VSV less contagious
 - VSV lesions generally found in one area of the body

Laboratory Diagnosis

- Virus isolation
- Viral antigen detection
 - Vesicular fluid or epithelium
 - ELISA, complement fixation, virus neutralization
- Antibody tests
 - Paired serum samples
 - ELISA, complement fixation, virus neutralization

Treatment

- No specific treatment available
- Supportive care
 - Fresh, clean water
 - Electrolytes if necessary
 - Soft feeds
- Antibiotics for secondary infection
- Good prognosis

- Production animals may suffer losses

Vaccination

- Vaccines used in some endemic regions
- Vaccines may be available during an outbreak
 - Efficacy is unknown

Prevention

- Do not buy from positive herds for 3 months post-infection
- Avoid grazing at peak insect feeding hours
- Segregation and isolation necessary for controlling spread
- Sanitation
- Insect control programs