Signalment and History

- 13 day old Thoroughbred colt

- Day 1: Healthy at birth with normal CBC/Chem and IgG

- Day 11: Colt was acting “not right”

- Colt continued to nurse, but became hyperaesthetic and mentation continued to decline

- Day 12: Colt became febrile, ataxic and anorexic

- Early Day 13: Colt died after behavioral problems deteriorated into seizures
Gross Necropsy Findings

- Diffuse, moderate – marked congestion of the meningeal vasculature prominent on the dorsal surfaces of cerebrum and cerebellum

- Moderate yellow exudate clouding the meninges and obscuring the sulci predominantly on the caudodorsal cerebrum and dorsal cerebellum
Histopathological Findings

- Marked expansion by large numbers of degenerate neutrophils admixed with necrotic debris and fibrin
- Perivascular cuffing and expansion of the Virchow-Robin space
- Gliosis
- Vessels congested and lined by reactive endothelium
Morphological Diagnosis

- Meningoencephalitis: Suppurative, diffuse, subacute, cerebrum and cerebellum
Foal Meningoencephalitis

- Etiologies: bacteria, viruses, fungi, protozoa, rickettsia, immune-mediated, idiopathic
  - Bacteria: common culprit in young animals
  - 5-10% of septic neonates develop meningitis
Foal Meningoencephalitis

- Immature blood brain barrier $\rightarrow$ hematogenous spread
  - Origination: respiratory, gastrointestinal, umbilical

- Risk factors: failure of passive transfer, maternal illness, dystocia, unhygienic environment

- Clinical signs: behavior changes, agitation, partial paralysis of face or limbs, difficulty eating, seizures
Foal Meningoencephalitis

- **Diagnostics:** CBC, Biochemistry, Serum IgG, CSF tap and culture
  - (+/-) segmented neutrophils, toxic changes, hyperfibrinogenemia, Serum IgG < 400 mg/dL (adequate passive transfer: IgG > 800 mg/dL at 12 hours)

- **Prognosis:** guarded-poor

http://www.thehorse.com/

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Etiologies and Confirmatory Testing

• Ante-mortem blood culture positive for *Enterobacter aerogenes*

• Aerobic culture of meninges yielded heavy growth of an enteric Gram negative bacillus
Enterobacter aerogenes

- Rod shaped, Gram negative, facultative anaerobe
- Motile, opportunistic enteric bacteria
- Easily acquired resistance to β-lactam antibiotics
- Clinically associated with coliform mastitis in cows and sows

www.bioquell.asia

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Acknowledgements

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UF Histology Lab

UF Microbiology Lab

UF Infectious Diseases & Pathology
References


Questions?

http://www.kentucky.com/