Case 07-451

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Signalment

30 year old American Paint Horse gelding

http://thepetwiki.com/wiki/American_Paint_Horse
History

- 1-day history of colic signs
- At presentation, the patient was trembling
- Ultrasound: Distended small intestine with decreased motility
- Rectal Exam: Possible displaced colon
Postmortem

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Churukian-Schenk Staining
Morphologic Diagnosis

Right adrenal gland: Pheochromocytoma
Equine Pheochromocytomas

- Infrequent finding
Equine Pheochromocytomas

- Infrequent finding
- Functional or Non-functional
Equine Pheochromocytomas

- Infrequent finding
- Functional or Non-functional
- Low incidence of malignancy
Equine Pheochromocytomas

- Infrequent finding
- Functional or Non-functional
- Low incidence of malignancy
- Unilateral
Functional Pheochromocytomas

- No known breed or gender predilection
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- Only reported in horses >12 years
Functional Pheochromocytomas

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- Only reported in horses >12 years
- Tumor cells produce catecholamines
Functional Pheochromocytomas

- No known breed or gender predilection
- Only reported in horses >12 years
- Tumor cells produce catecholamines
- Similar clinical signs to colic, rhabdomyolysis, or acute laminitis
Clinical Signs

- Abdominal pain

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- Muscle tremors

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- Tachycardia

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Clinical Signs

- Abdominal pain
- Muscle tremors
- Profuse sweating
- Tachycardia
- Tachypnea

Diagnosis

Difficult to diagnose

http://www.cartoonstock.com/directory/h/horse_whisperer.asp
Diagnosis

- High serum concentration of catecholamines or their metabolites in urine

http://www.thehorse.com/articles/30832/breeders-cup-all-equine-drug-tests-negative
Diagnosis

- High serum concentration of catecholamines or their metabolites in urine
- Catecholamines labile

http://www.thehorse.com/articles/30832/breeders-cup-all-equine-drug-tests-negative
Diagnosis

- Additional Diagnostics:
  - Ultrasonography
  - Blood Pressure
Prognosis

- Poor prognosis due to surgical complications
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- Induction of fatal arrhythmias
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- Anatomic location of adrenals
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Comparative Pheochromocytomas

- More common in cattle, laboratory rats, and dogs
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- Bulls: may be part of multiple endocrine neoplasia
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  - 50% metastasize to the liver, regional lymph nodes, spleen, and lungs
Case Summary

- Presented as a colic
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- Pheochromocytoma found on necropsy
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- Pheochromocytoma found on necropsy
- Catecholamines produce clinical signs
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- Presented as a colic
- Pheochromocytoma found on necropsy
- Catecholamines produce clinical signs
- Poor prognosis
Acknowledgements

- Dr. Danielle Reel
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- UTCVM Pathology Department
- UTCVM Histology Lab
Questions?