

Sodium/Potassium (Na/K) Ratio

Interpretive Summary

Description: The ratio of sodium to potassium in the peripheral blood is often used as an indicator of Addison's disease.

Decreased Na/K Ratio

Common Causes

- Addison's disease
- Diabetes mellitus with ketonuria
- Gastroenteritis/diarrhea
 - Whipworms (dogs)
 - Sodium loss (especially horses)
 - Other causes of severe gastrointestinal disease

Uncommon Causes

- Third-space fluid/chyle loss or drainage
- Urinary tract disease
 - Anuric or oliguric renal failure
 - Urinary rupture or obstruction

Related Findings

- Addison's disease
 - Often have increased potassium and decreased sodium
 - Lack of a stress leukogram (normal or increased lymphocytes and/or eosinophils)
 - Failure to respond on an ACTH stimulation test
- Diabetes mellitus with ketoacidosis
 - Increased glucose, ALP, ALT, BUN, creatinine, cholesterol, anion gap
 - Decreased TCO₂, sodium, potassium (can also be normal or increased)
 - Increased fructosamine
 - Glucosuria and ketonuria, variable bacteriuria and pyuria
 - Increased Spec fPL® or Spec cPL® (may be present with concurrent pancreatitis)
- Gastroenteritis/diarrhea
 - Fecal ova and parasites positive for whipworms
 - Decreased albumin and globulin in severe cases
 - Thickened intestine with loss of normal layering may be presented on ultrasound
 - Histopathology of intestine may show evidence of IBD, lymphoma or other infiltrative process

Increased Na/K Ratio

Common Causes

- Not clinically significant

Additional Information

References

- Latimer KS, Mahaffey EA, Prasse KW, eds. *Duncan and Prasse's Veterinary Laboratory Medicine: Clinical Pathology*, 4th ed. Ames, IA: Blackwell; 2003.
- Stockham SL, Scott MA. *Fundamentals of Veterinary Clinical Pathology*, 2nd ed. Ames, IA: Blackwell; 2008.

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