VETERINARY TECHNICAL DATASHEET

Fanconi Syndrome

Mutation Found In :Basenji

Disorder Type

- Urinary

Disease Severity

- Moderate/severe

Background

Fanconi syndrome is a condition of the renal tubules where the reabsorption capacity of the proximal renal tubules of the kidneys is impaired. This leads to excessive loss of essential metabolites such as glucose, electrolytes, amino acids, and proteins in the urine. Clinical signs of the disease include frequent drinking and urinating, weight loss, and poor hair coat. There are both acquired and inherited forms of Fanconi syndrome. An inherited form of the disease has been found in the Basenji.

Key Signs

- Increased drinking and urinating
- Glucosuria
- Weight loss
- Poor coat quality

Clinical Description

Clinical signs typically include polyuria and polydipsia (increased amount and frequency of urination and drinking), muscle wasting, weight loss, metabolic acidosis, and poor coat quality. In dogs with Fanconi syndrome, urinalysis findings frequently identify the presence of glucose despite normal serum glucose levels. The onset of clinical signs typically varies between 4 and 7 years of age. The disease is caused by the impaired reabsorption capacity of the proximal renal tubules leading to urinary leakage of essential metabolites such as glucose, electrolytes, amino acids, and proteins. It has been speculated that low-level amounts of heavy metals could speed up kidney damage in affected dogs. This would explain the varying age of onset. Among Basenjis, the prevalence of the disease has been estimated to be about 10%.

Mode of Inheritance

- autosomal recessive

Gene Name

- FAN1

Next Steps

Treatment is aimed at slowing the progression of the kidney disease and preserving quality of life through nutritional and medical supportive care. With appropriate treatment, affected dogs typically live about 5 years after the development of clinical signs. If left untreated, the disease leads to death secondary to renal failure.

References

Farias FHG. Molecular genetic studies of canine inherited diseases. PhD dissertation. University of Missouri, 2011.