VETERINARY TECHNICAL DATASHEET

Renal Cystadenocarcinoma and Nodular Dermatofibrosis, (RCND)

WISDOM HEALTH™

Mutation Found In :German Shepherd Dog

Disorder Type

- Urinary

Disease Severity

- Moderate/severe

Background

Renal cystadenocarcinoma and nodular dermatofibrosis (RCND) is a canine kidney cancer syndrome characterized by multifocal tumors in the kidneys, collagen nodules in the skin, and uterine leiomyomas in females. RCND is inherited in an autosomal dominant manner.

Key Signs

- Bilateral
- Multifocal kidney tumors
- Uterine leiomyomas
- Collagen nodules in the skin
- Skin lesions

Clinical Description

Renal cystadenocarcinoma and nodular dermatofibrosis is characterized by bilateral, multifocal tumors in the kidneys. Kidney cysts start to develop in puppyhood, but observable signs of kidney disease are usually present in dogs 7-8 years of age when tumors are larger in size and number. Typical signs of the kidney disorder are polydipsia, polyuria, loss of appetite, weight loss, ascites (accumulation of fluid in the peritoneal cavity), and vomiting. Most females develop uterine leiomyomas (benign smooth muscle tumors). Numerous firm nodules in the skin, consisting of dense collagen fibers are also present in RCND. Skin nodules are usually observable at the age of five years and they can be seen especially in the area of head and limbs. Skin nodules grow slowly over a long period of time and can cause skin lesions at an older age. Skin nodules are usually not associated with discomfort but skin lesions can be painful. Many affected dogs can live many years with subclinical disease. In some cases, the clinical signs are mild and appear at an older age.

Mode of Inheritance

- autosomal dominant

Gene Name

- FLCN

Next Steps

Medical management of clinical signs associated with kidney failure is possible for a period of time. Surgical excision of the uterus may be attempted to reduce the tumor burden. Management of skin lesions may help reduce discomfort though excision of nodules is not usually necessary.

References

Lingaas F, Comstock KE, Kirkness, EF, Srensen A, Aarskaug T, Hitte C, Nickerson ML, Moe L, Schmidt LS, Thomas R, Breen M, Galibert F, Zbar B, Ostrander EA. A mutation in the canine BHD gene is associated with hereditary multifocal renal cystadenocarcinoma and nodular dermatofibrosis in the German Shepherd dog. Hum Mol Genet 12:3043-53, 2003.