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SCREENING OF RAGDOLL CATS FOR KIDNEY DISEASE: A RETROSPECTIVE EVALUATION

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The Ragdoll is one of the most popular cat breeds worldwide. According to several breeder websites, Ragdolls are predisposed for chronic kidney disease (CKD), mainly due to polycystic kidney disease (PKD) and chronic interstitial nephritis (CIN). Although there is no evidence that Ragdolls are at increased risk for renal problems, screening of these cats is performed in several countries before breeding. In addition, information about the prevalence of PKD in Ragdoll cats is lacking. The aim of this study was to retrospectively evaluate the results of screening tests of Ragdolls at our institution to assess the prevalence of renal abnormalities in this breed.

All Ragdoll cats that were presented for PKD and/or CIN screening (abdominal ultrasonography, PKD genetic testing, renal values) between September 2001 and November 2009 were considered for inclusion in this retrospective study. Ragdolls were excluded if only the renal values were measured without undergoing an abdominal ultrasonography (US) to evaluate the kidneys and liver and/or genetic testing for PKD. PKD negative cats only evaluated by US needed to be at least 9 months to be included. The signalment, serum urea nitrogen and creatinine concentrations and US abnormalities of kidneys and liver were assessed. PKD was considered if at least one cystic structure was found in at least one kidney or the liver on US or if the cat was heterozygous for the PKD1 nonsense mutation on genetic testing. Cats with US changes compatible with CKD were considered at risk for CIN.

The study included 257 Ragdolls with a mean age of 774 days (range 90-3190). Abdominal US was performed on 249 cats: 7 cats were diagnosed with PKD, 22 cats had one or more abnormalities that could be compatible with CKD, 8 cats had other renal abnormalities with uncertain significance and 2 cats showed right unilateral renal agenesis or aplasia. None of the cats showed hepatic cysts. All 29 genetically tested cats were homozygous for the wild PKD1 allele, including 1 cat that was considered PKD positive on abdominal US. Renal values were measured in 142 cats: 68 had an increased serum creatinine concentration and 3 had both serum urea nitrogen and creatinine concentrations above the reference range. The mean serum creatinine concentration was 127.34 ± 30.67 µmol/L (reference range: 87-124 µmol/L).

Although this study is limited by its retrospective nature, the screening results for kidney disease of a large population of Ragdoll cats are evaluated for the first time. This study indicates that PKD occurs at a low prevalence in Ragdolls and that US findings possibly compatible with CIN can be detected in less than 10% of this Ragdoll population. Almost half of the cats had an increased serum creatinine concentration, therefore further examination will need to elucidate if this is due to a breed-specific feature or to decreased renal function.