

POLYCYSTIC KIDNEY DISEASE IN A PERSIAN CAT – A CASE REPORT

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[Received: 10.01.2023; Accepted: 02.05.2023]

{DOI 10.29005/IJCP.2023.15.1.19-20}

One of the most common congenital disease in felines is the polycystic kidney disease. A four and half year old cat weighing 3 kg presented to University Veterinary Hospital, Kokkalai (Thrissur) with a complaint of anorexia, gradual weight loss, polydypsia and polyuria. On examination of abdomen found enlarged kidneys with irregular surface. Ultrasonogram revealed presence of numerous cysts on both kidneys that were fluid-filled.

Keywords: Polycystic Kidney, Persian cat, Autosomal Inherited Disease.

Feline polycystic kidney disease is an inherited autosomal dominant disease, has a high prevalence (80%) in Persian cats (Lyons *et al.*, 2004) and Persian-related cats and rare in mixed breeds (Volta *et al.*, 2010). Polycystic kidney disease is characterized by one or more fluid filled cysts of variable sizes usually present on renal cortex and medulla. Rarely similar cysts can also be observed on liver and pancreas (De Cock *et al.*, 2007). Ultrasonography is the definite method for diagnosis PKD.

Affected younger cats remain normal during in early stages of disease. As the age progresses, kidney damage also progress and animal start to show clinical signs. Development of clinical signs is based on the progressive development of cysts. Younger cats with numerous cysts. may die within 8 week.

Case history and Observations

A four and half year old Persian cat was presented to University Veterinary Hospital, Kokkalai (Thrissur) with history of anorexia, weight loss, polydypsia and polyuria for 3 days. Animal was dull and depressed (Fig: 1), sunken eyes, unable to walk, oral ulcers, halitosis, with papery white mucous membrane, subnormal temperature of 96.7 °F and rough matted hair coat.

On palpation of abdomen revealed, enlarged kidneys and distension of urinary bladder. Haematology showed granulopenia (26%) and severe anaemia (Hb-6.6 g/dL, RBC $0.40 \times 10^6/\mu\text{L}$). Serum-biochemical

analysis revealed increased blood urea nitrogen (107 mg/dL), creatinine (6.856 mg/dL), phosphorus (53.3mg/dL) and ALP (54.33 IU/L). Abdominal ultrasonography showed marked distension of urinary bladder and enlarged kidneys with fluid filled circular anechoic and hypoechoic cavities suggestive of cysts (fig 2,3,4.).

Treatment and Discussion

Based on the ultrasonographic findings and biochemical parameters the case was confirmed as a polycystic kidney disease. Treatment initiated with correction of dehydration status using Ringer lactate 40 ml intravenously. Frusemide at the rate of 2 mg/kg intravenously twice daily, Amoxicillin clavulanate at the rate of 12.5mg/kg intravenously twice daily, Pantoprazole at the rate of 1mg/kg intravenously once daily and Polybion 0.5ml given intramuscular once daily. Animal showed slight improvement on next day, but the condition of animal got deteriorated and collapsed on third day of treatment.

In present case enlarged kidneys with multiple cysts were found in both kidneys. Spherical, anechoic and fluid filled structures were observed on ultrasonography of kidney.

Due to severe illness and many cysts can lead to kidney structural changes and paranchymal distortion. This is major reason for older cats with renal cysts get chronic renal failure. Creatinine and blood urea nitrogen level were elevated due to functional

kidney damage. One of the major route of phosphorus excretion is kidney as also mentioned by Karabagli *et al.*, 2019. Due to decreased kidney function retention at phosphorus is observed in this case. Although there are other techniques for diagnosing PKD, ultrasonography is most conclusive, Cats older than 16 weeks the sensitivity at an ultrasonography examination found to be 91%.

Conclusions

Therefore in Persian breed cats and Persian related breeds it is always required to routinely do haemato-biochemical profiles and abdominal ultrasonography of kidneys, liver and pancreas and only cats that are polycystic kidney disease negative should be utilised for breeding.



FIGURE 1



FIGURE 2



FIGURE 3



FIGURE 4

References

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