

University of Milan, Lodi, Italy

Complicated urinary tract infections (cUTI) occur in the setting of a urinary tract with underlying metabolic, functional, or structural abnormalities that typically require longer antibiotic courses and carry a higher risk of treatment failure.

UTI are major reasons for antibiotic prescription in dogs and the responsible bacterial populations have developed increasing resistances.

The aim of this retrospective study was to investigate the prevalence of pathogens, their susceptibility patterns, the comorbidities and the urinary sites involved (detected by ultrasonography) in a population of dogs affected with cUTI.

Four hundred thirty one urine samples collected by cystocentesis from 260 dogs underwent to urine culture for diagnostic purposes. Antimicrobial sensitivity tests were obtained by Kirby-Bauer method. Comorbidities were deduced by the analysis of patient clinical and ultrasound reports.

A control group of 360 dogs (4fold the dogs affected) was randomized among the whole canine population examined during the same period of time (2013-2017). Wilcoxon, Kruskal-Wallis and Chi-square tests were used for statistical analysis.

One hundred forty one urine samples (32.7%) from 90 dogs (34.6%) had a positive culture.

Crossbreeds (29%) and spayed females (42%) were prevalent and the mean age was 9.2 years.

A significant higher prevalence, among the "UTI-dogs" was observed for Labrador Retriever, English Bulldog, Golden Retriever, Beagle and Cocker Spaniel, spayed females and dogs between 8 and 13 years old.

Escherichia coli was the predominant pathogen (43%), followed by *Staphylococcus pseudintermedius* (8%), *Staphylococcus aureus* (8%), *Streptococcus faecalis* (7%), *Klebsiella pneumoniae* (6%), *Pseudomonas aeruginosa* (5%) and other 13 species. A predominance of single isolates (89.4%) compared to polymicrobial infections (10.6%) was observed.

Marbofloxacin was overall the most effective molecule (63.1% sensitivity), followed by Cefovecin (58.6%), Ceftriaxone (55.1%), Enrofloxacin (54%) and Pradofloxacin (53.3%). *Escherichia coli* showed the highest sensibility versus Cefovecin (70%), Marbofloxacin (67.2%), Trimetoprim/Sulphamide (64.3%), Ceftriaxone (63.5%), Pradofloxacin (61.5%) and Enrofloxacin (60.9%).

The most represented identified comorbidities were urolithiasis (25%), CKD (24%), hyperadrenocorticism (11%) and extra-urinary neoplasms (10%). Eight dogs were included because of the recurrence of the infections.

Of the 68 dogs underwent to abdominal ultrasound, 58 (85.3%) showed ultrasonographic abnormalities involving the urinary system: 36 (52.9%) in the upper tract, 41 (60.3%) in the lower tract and 19 of these in both (27.9%).

The high rate of antimicrobial resistance detected could lead to treatment failures and poor prognosis; additional guidelines are needed because of the public health concern determined by the zoonotic potential of the isolated bacteria.

Disclosures

No disclosures to report.

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Cats at risk or with spontaneous CKD. What affects survival and prognosis?

P. Scarpa, A. de Sanctis, J. Zambarbieri
 University of Milan, Lodi, Italy

Chronic kidney disease (CKD) is among the major causes of morbidity and mortality in cats, with a significant prevalence up to 31% over 15 years old.

The aim of this retrospective observational study was to evaluate the prevalence of death, survival time and risk factors in a population of cats at risk or affected with CKD.

One hundred thirty three cats, from a starting population of 472 (years 2013-2018), were included in this study. One or more of the following criteria had to be observed during their first clinical examination: age over 9 years, serum creatinine (SCr) >1.6 mg/dL, borderline (0,2-0,4) or pathologic (>0,4) urinary protein/creatinine ratio (UPC), urine specific gravity (USG) <1.035. Furthermore, their "follow-up data" have been obtained through an online questionnaire filled by the owners (beginning of 2019). The nephropathic cats were staged according to IRIS guidelines, and not nephropathic cats were included in stage 0.

Wilcoxon test and Kaplan Meyer survival curve analysis were performed.

Median age of the population was 11 ± 4,31 years; male were over-represented (55 vs 45%); Domestic Shorthair was the predominant breed (76%).

Forty nine (36,8%) cats were included in stage 0; 21 (15,8%) in stage 1; 48 (36,1%) in stage 2; 7 (5,3%) in stage 3; 8 (6%) in stage 4, with a mean sCr value of 1,98 mg/dL ± 1,54.

Sixty (45,1%) cats were naturally dead or euthanized at the time of the survey; 25 (18,8%) of these due to CKD. Some parameters were significantly different between the two groups: "dead by CKD" and "dead by other diseases". Serum creatinine was higher, while USG, red blood cells (RBC), white blood cells (WBC) and hematocrit (Ht) were significantly lower in "dead by CKD" cats. Survival time in nephropathic cats was related with age, IRIS staging, serum phosphorus, RBC, WBC, Ht. Cats staged as IRIS-2 survived longer than cats staged as IRIS-1, because other comorbidities are the reason for the consultation in stage-1 cats. A lower survival time was observed in cats with a body condition score different than normal (higher or lower). Lower survival was observed in hypertensive conditions when the whole population of cats was considered, and not only the CKD one.

Other than sCr, results from CBC and USG are to keep in consideration in a prognostic evaluation of cats at risk or affected with CKD. Age has to be considered a risk and a prognostic factor.

Disclosures

No disclosures to report.