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Prevalence of Cases of Feline Lower Urinary Tract Disease (FLUTD) in Patients Treated at Veterinary Teaching Hospital During 2022

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Abstract

Feline lower urinary tract disease (FLUTD) is a complex patient condition caused by many factors. This case is the reason why pet owners always need veterinary assistance. Cats with urinary tract disorders show almost similar symptoms such as pollakiuria, hematuria, stranguria, urethral obstruction, and even urination outside the litter box. Urethral obstruction is a common complication in cases of FUS, which often occurs in male cats. Based on this, this study was conducted to determine the prevalence rate of FUS in the cat patient population at RSHP in 2022. The total number of patients treated at Veterinary Teaching Hospital (VTH) Prof. Dr. Noerjanto Faculty of Veterinary Medicine, Universitas Syiah Kuala was 849, and 38 cases of cat patients experiencied FLUTD. This research is an observational study to see the prevalence rate of FLUTD in a population of cat patients treated at the VTH. Based on the research that has been done, the prevalence value of animals experiencing FLUTD is 4.47. The number of cases of FLUTD in male cats is (97.3%) and for female cats (2.63%). The incidence of FLUTD that occurred in cats aged 2 to 4 years old.

Keywords: Feline urologic syndrome; prevalence rate; Veterinary Teaching Hospital Faculty of Veterinary Medicine Universitas Syiah Kuala.

Background

Feline lower urinary tract disease (FLUTD) is a disorder condition of the urinary bladder or urethra of cats (eg, urethral plugs, bacterial infection, uroliths). Symptoms that are often seen in FLUTD cats are dysuria, stranguria, pollakiuria, hematuria, and periuria (ie, urinate in inappropriate places), and/or behavioral change, tend to lick themselves excessively, and loss of litterbox training (Moore, 2003; Forrester and Roudebush, 2007).

The assessment steps taken to get a FLUTD diagnosis can be done in various ways. The evaluation consists of laboratory urinalysis, urine culture, and diagnostic imaging such as ultrasound, abdominal x-ray, or cystourethrography. But if no evidence is found, a diagnosis of feline idiopathic cystitis (FIC) is can be made (Forrester and Roudebush, 2007).

In general, FLUTD is categorized based on 2 types of conditions, i.e obstructive FLUTD and non-obstructive FLUTD.

Causes of obstructive FLUTD	
Urethral plug	59%
Uroliths	10%
Uroliths+bacterial infection	2%
Obstructive idiopathic cystitis	29%
Causes of non-obstructive FLUTD	
Non-obstructive idiopathic cystitis	65%
Uroliths	15%
Behavioral problems Obstructive	<10%
Bacterial infection	<2%
Anatomical defects/neoplasia/other	10%

While FLUTD can be seen in any age of cats, it mostly occurs in cats between the ages of 1 and 10 years (Bartges, 1977), and attach to any kind of sex (Moore, 2003).

Veterinary Teaching Hospital Prof. Dr. Noerjanto is the only vet hospital in Aceh province and the only Veterinary Teaching Hospital (VTH) in Sumatra. The VTH is a referral facility for handling disease cases in animals, so many disease cases have been handled by the VTH medical team. One of the cases of disease that occurs in patients who come to VTH is FLUTD.

In medical epidemiology, prevalence is defined as the proportion of the population with a condition at a certain point in time (point prevalence) or over a certain period time (prevalence period) (Tenny and Hoffman, 2022). Based on these facts, a study on the prevalence rate of FLUTD in patients treated at VTH was conducted.

Research Procedure

Medical records of feline patients who visited VTH from January to December of 2022 were reviewed. Felines were diagnosed with FLUTD if they presented with dysuria, hematuria, pollakiuria, or periuria. All cats were included without regard to breed or sex.

The method used in this study is an epidemiological study, namely the prevalence test. The testing is carried out using the formula:

$$\frac{number\ of\ cases}{number\ of\ populations} x1$$

Results and Discussion

The prevalence value of FLUTD cases in the patient population treated at VTH was 4.47, with a total of 849 patients and 38 patients diagnosed with FLUTD. The prevalence rate of FLUTD cases in felines who were treated in VTH is 4.47. It was a difference from previous studies in Bangkok, Thailand (2.2%), and The United States (1.5%) (Laund *et al*., 1999; Pusoonthornthum *et al*., 2012). The cases may be due to differences in diet, breeds of cats, and geographic area (Piyarungsri *et al*., 2020). The VTH receives a substantial number of feline patients each year, but no one has yet evaluated the prevalence rate of FLUTD in the total of the patient.

In this study, FLUTD was diagnosed in felines aged 1 to 4 years old. There is a view of previous studies that cats diagnosed with FLUTD were 2-6 years old (Willeberg and Piester, 1976), and 1-6 years old (Piyarungsri et al., 2020). Previous studies concluded that there are no significant differences between clinically normal cats and cats with FLUTD in each age range. There are possibilities for the wide disparity in the prevalence among studies due to the historical period, diet, and population evaluated (Piyarungsri *et al*., 2020).

In this study, cases of FLUTD suffered by male cats were higher (97.3%) than by female cats (2.63%). Several studies that have been conducted by a few researchers found several risk factors for FLUTD. The Overweight is believed to increase the risk of FLUTD 4 times higher (Pusoonthornthum *et al*., 2012), neutered cats also increase the risk of FLUTD especially castrated male cats (Willeberg and Piester, 1976). Gender is also considered to influence risk factors where male cats are at higher risk of developing FLUTD and feline infectious cystitis than female cats (Cameron *et al*., 2004; Servik *et al*., 2011; Lew-Kojrys *et al*., 2017).

Conclusion

The VTH receives a substantial number of feline patients each year, but there is no data about the prevalence rate of FLUTD cases. The the study obtains that the prevalence of FLUTD cases in cats treated in VTH is 4.47. Further research is needed regarding the types of FLUTD risk factors experienced by patients treated at VTH.

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