Casuistry of canine and feline care at the School Veterinary Clinic of UFSC Curitibanos, Santa Catarina, Brazil, between 2015 and 2022

Casuística de atendimento de caninos e felinos da Clínica Veterinária Escola da UFSC Curitibanos, Santa Catarina, Brasil, entre 2015 e 2022

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ABSTRACT: This study aimed to conduct a casuistry survey based on the analysis of clinical records of canines and felines treated between 2015 and 2022 at the School Veterinary Clinic of UFSC (SVC/UFSC) to study disease prevalence associated with patient review data. This is the first clinical prevalence study in the state of Santa Catarina. Diseases were diagnosed in seven organ systems, including skeletal muscle, respiratory, digestive, reproductive, urinary, nervous, and endocrine, and five specialties, including dermatology, ophthalmology, infectious diseases, dentistry, and oncology, considering the first seven years of care. Of the 1419 animals treated, 74.21% (1053) were canine and 25.79% (366) feline. Of the 1053 dogs, 23.67% (250) were purebred and 76.36% (803) were mixed breeds. Among the cats, 89.61% (328) presented no defined breed, and 10.39% (38) were pure breeds. Most canines are between 10 months and four years old, whereas in felines, most are up to 1 year of age. Canines presented a higher prevalence of dermatological involvement, corresponding to 26.59%, whereas urinary system problems prevailed in felines (15.30%). Casuistry studies indicate the predominant diseases in a given area and their risk factors, considering differential diagnosis and future prevention programs for animal welfare and health.

KEYWORDS: Dogs; cats; medical clinic; survey.

RESUMO: Este estudo teve como objetivo fazer levantamento de casuística a partir da análise de fichas clínicas dos caninos e felinos atendidos entre 2015 e 2022, na Clínica Veterinária Escola da UFSC (CVE/UFSC), para obtenção de estudo de prevalência de doenças, associada aos dados de resenha dos pacientes. Este é o primeiro estudo de prevalência clínica do estado de Santa Catarina e, considerando os sete primeiros anos de atendimento, foram diagnosticadas enfermidades em sete sistemas orgânicos, sendo eles músculo esquelético, respiratório, digestório, reprodutor, urinário, nervoso e endócrino, além de seis especialidades como dermatologia, oftalmologia, doenças infecciosas, odontologia e oncologia. Dos 1419 animais atendidos, 74,2% (1053) foram caninos e 25,8% (366) felinos. Dos 1053 cães, 23,5% (250) eram de raças puras e 76,5% (803) eram mestiços. Dentre os gatos, 89,6% (328) eram sem raça definida e 10,4% (38) de raças puras. Em relação às idades, a maior parte dos caninos apresentava entre 10 meses e 4 anos, já nos felinos, a maior parte apresentava até 1 ano de idade. Nos caninos houve maior prevalência de acometimento dermatológico, correspondendo a 26,6%, já nos felinos prevaleceram problemas no sistema urinário (15,3%). Os estudos referentes à casuística são importantes para que se conheçam as enfermidades predominantes em determinada área e seus fatores de risco, pensando em diagnóstico diferencial e programas de prevenção futuros visando ao bem-estar e à saúde dos animais.

PALAVRAS-CHAVE: Cães; gatos; sistemas; levantamento.

INTRODUCTION

According to the Brazilian Association of Pet Products Industry, Brazil has a significant population of 144.3 million domestic animals, of which 55.9 million are dogs and 25.6 million are cats. According to demographic data from the Brazilian Institute of Geography and Statistics, the country has 213.7 million inhabitants, with pets representing 67.6% of the Brazilian population (Camargo, 2021).

Recent casuistry prevalence studies in dog and cat medical clinics are scarce in Brazil. Papers from the Federal District (Faria, 2018) and Rio Grande do Sul (Xavier, 2012) are highlighted. In Santa Catarina, there is no significant study of the prevalence of diseases in dogs and cats, only one involving dermatological conditions (Silvestre *et al.*, 2021). Thus, this is the first study based on the care provided by the School Veterinary Clinic of UFSC Curitibanos (SVC/UFSC), considering the first seven years of care.

MATERIAL AND METHODS

In this retrospective study, we compiled data from the clinical records of dogs and cats treated by the Laboratory of Small Animals Clinic and Image of the School Veterinary Clinic of the Santa Catarina Federal University (LSACI/SVC/UFSC), Curitibanos campus, from 2015 to 2022. Age, sex, and breed were included, in addition to the systems or specialty involved and the clinical suspicion or definitive diagnosis.

The data were categorized into four age groups for canines (CREEVY *et al.*, 2019): up to 9 months, from 10 months to 4 years, from 5 to 9 years, and above 10 years. Felines were divided into up to 1 year, 1 to 6 years, 7 to 10 years, and over 10 years (QUIMBY *et al.*, 2021).

The diseases suspected or diagnosed during the visits were classified according to system or specialty.

RESULTS AND DISCUSSIONS

The records from 2015 to 2022 of the 1419 animals treated were analyzed, of which 1053 (74.20%) were canine and 366 (25.79%) feline. Concerning sex, males had a higher prevalence than females for both species (Table 1).

Regarding the breeds (Table 2), most treated animals had no defined breed (NDB). Regarding the dogs, 76.25% (803) were NDB, and 23.75% (250) were pure breeds, which corroborates the works of Nascimento *et al.* (2022). For the feline species, 89.61% (328) were NDB, and 10.39% (38) were pure breeds, similar to the study by Santos (2022).

Regarding the age group (Table 3), 538 (51.09%) dogs were aged from 10 months to 4 years, followed by 320 (30.38%) aged 5 to 9 years, 133 (12.63%) aged 10 to 15 years, and 62 (5.88%) less than 9 months. This result shows that the most treated age group was young adult dogs, consistent with a study by Creevy *et al.* (2019). Regarding the felines, 182 (49.72%) were under one-year-old, 94 (25.68%) from 1 to 6 years, 75 (20.49%) were over 10 years old, and 13 (3.55%) from 7 to

10 years, which shows that the highest demand for cat care occurred for kittens, according to Quimby *et al.* (2021).

There were 29 immunization protocols for dogs and 15 for cats; 135 female dogs were screened for ovariohysterectomy (OVH), and 60 male dogs were screened for orchiectomy (OH). For felines, there were 113 screenings of female cats for OVH and 48 male cats for OH, which are not computed in the casuistry since they are elective practices. There were also 36 check-ups for which the animals were healthy.

For the casuistry of treatments concerning tutor complaints (Table 4), evaluations were conducted regarding seven organic systems: skeletal muscle, respiratory, digestive, reproductive, urinary, nervous, and endocrine, in addition to five specialties: dermatology, ophthalmology, infectious diseases, dentistry, and oncology.

Regarding the distribution of the prevalence of affected systems in dogs, most animals were diagnosed with dermatological

Table 2. Distribution of dog and cat breeds treated at SVC/UFSC from 2015 to 2022.

Species	Breed	Prevalence (N/%)
Dog	No defined breed (NDB)	803 (76.33%)
	Pinscher	44 (4.17%)
	Poodle	39 (3.70%)
	Lhasa Apso	35 (3.32%)
	Yorkshire	32 (3.03%)
	Shi Tzu	28 (2.65%)
	Labrador	21 (1.99%)
	Chow Chow	21 (1.99%)
	German Shepherd	14 (1.32%)
	Siberian Husky	8 (0.75%)
	Pitbull	8 (0.75%)
Cat	No defined breed (NDB)	328 (89.61%)
	Siamese	22 (6.01%)
	Persian	16 (4.38%)

Table 3. Age group of dogs and cats treated at SVC/UFSC between 2015 and 2022.

Species	Age range	Age (years)	Animals (N/%)
Dog	Puppy	0 – 9 months	62 (5.88%)
	Young adult	10 months – 4 years	538 (51.09%)
	Mature adult	5 – 9 years	320 (30.38%)
	Older animal	> 10 years	133 (12.63%)
Cat	Kitten	< 1 year	182 (49.72%)
	Young adult	1 – 6 years	94 (25.68%)
	Mature adult	7 – 10 years	13 (3.55%)
	Older animal	> 10 years	75 (20.49%)

Table 1. Species and sex of patients treated at the School Veterinary Clinic of the Santa Catarina Federal University between 2015 and 2022.

Species	Male (N/%)	Female (N/%)	Total (N/%)
Dog	762 (72.36%)	291 (27.64%)	1053 (74.21%)
Cat	284 (77.59%)	82 (22.41%)	366 (25.79%)

disorders, with 26.59% (280/1053), followed by reproductive issues with 15.00% (158/1053), and 9.49% (100/1053) of oncological disorders (Table 4). As for felines, the highest prevalence was of urinary disorders, with 15.30% (56/366), followed by 14.48% (53/366) of digestive diseases and 13.66% (50/366) of dermatological occurrences. Treatments that did not fit the system's classification or presented inconclusive diagnoses were considered in the "other" category.

The highest prevalence for canines was for dermatological disorders, reaching 26.59% (Table 5), although not all cases received a definitive diagnosis. These results echo previous findings, such as those by Scherer (2015), who reported that skin diseases accounted for 30% of all clinical care provided to domestic carnivores. In the present study, the most common diseases included otitis (46.34%), demodectic scabies (29.27%), and dermatophytosis (24.39%). These findings are consistent with a higher incidence of dermatopathies in dogs in the Santa Catarina plateau, as reported by Silvestre *et al.* (2021), where otitis of varying etiologies represented 18% of dermatopathies diagnosed in dogs.

Oncology diseases were the second most prevalent for dogs (Table 6). Among them, neoplasms to be clarified had 74.72% of occurrence, followed by mastocytoma with 16.09% and lipoma with 9.19%. In 65 cases, the masses had no cytological and/or histopathological identification, meaning several cases remained without definitive diagnosis. Only the affected region was identified in this context, most of which consisted of mammary neoplasms (81.50%). The incidence of canine mastocytoma is high and represents 11 to 15% of skin tumors, being the second most common malignant neoplasm (Welle *et al.*, 2008; Costa-Casagrande, 2008), corroborating the significant prevalence of the disease in the study in question.

The third system with the highest prevalence in dogs was the reproductive system (Table 7), with 15% of cases, of which pyometra presented at 48.39%, transmissible venereal tumor (TVT) at 40.32%, followed by vaginitis at 11.29%. Thus, we noticed that female dogs had the highest occurrence of diseases. A study by Karpinski (2022) showed a prevalence similar to that of our study, in which TVT and pyometra were more commonly diagnosed. One of the factors that increase the incidence of pyometra is the use of progestogens and estrogens to prevent pregnancy since exogenous estrogen can increase progesterone receptors in the uterus (Jericó; Kogika; Neto, 2015). Regarding TVT, Costa (2023) also states that the high amount of wandering canines and the inefficiency of epidemiological control programs are some of the aspects that make it so frequent.

On the other hand, the most affected system in felines was the urinary system (Table 8), in which chronic kidney disease (CKD) accounted for 40.92% of cases, followed by lower urinary tract disease, with 8.63%, and cystitis, with 20.45%. Chronic kidney disease is generally more prevalent in cats than dogs (Scardoelli *et al.*, 2020). This specific study

Table 4. Prevalence of the casuistry by systems or specialties of dogs and cats treated at SVC/UFSC from 2015 to 2022.

System / Specialty	Canine (N/%)	Feline (N/%)	Total
Cardiovascular	25 (2.37%)	0	25
Dermatology	280 (26.59%)	50 (13.66%)	330
Digestive	63 (5.98%)	53 (14.48%)	116
Endocrine	45 (4.27%)	16 (4.37%)	61
Infectology	29 (2.75%)	30 (8.19%)	59
Skeletal muscle	94 (8.92%)	33 (9.01%)	127
Neurology	34 (3.22%)	3 (0.81%)	37
Dentistry	4 (0.37%)	14 (3.82%)	18
Ophtalmology	54 (5.12%)	15 (4.09%)	69
Oncology	100 (9.49%)	13 (3.55%)	113
Other	71 (6.74%)	44 (12.07%)	115
Reproductive	158 (15.00%)	25 (6.83%)	183
Respiratory	52 (5.01%)	14 (3.82%)	69
Urinary	44 (4.17%)	56 (15.30%)	100
Total	1053	366	1419

Table 6. Oncology diseases of canines treated at the School Veterinary Clinic (SVC) of the Santa Catarina Federal University (UFSC) between 2015 and 2022.

Disease	Prevalence (N/%)
Neoplasm to be clarified	65 (74.72%)
Mastocytoma	14 (16.09%)
Lipoma	8 (9.19%)
Total	87 (100.00%)

Table 5. Dermatological diseases diagnosed or to be clarified of the canines treated at the School Veterinary Clinic (SVC) of the Santa Catarina Federal University (UFSC) between 2015 and 2022.

Disease	Prevalence (N/%)
Otitis	57 (46.34%)
Demodectic scabies	36 (29.27%)
Dermatophytosis	30 (24.39%)
Total	123 (100.00%)

Table 7. Diseases of the reproductive system of canines treated at the School Veterinary Clinic (SVC) of the Santa Catarina Federal University (UFSC) between 2015 and 2022.

Disease	Prevalence (N/%)
Pyometra	30 (48.39%)
TVT	25 (40.32%)
Vaginitis	7 (11.29%)
Total	62 (100.00%)

Table 8. Urinary system diseases of felines treated at the School Veterinary Clinic (SVC) of the Santa Catarina Federal University (UFSC) between 2015 and 2022.

Disease	Prevalence (N/%)
Chronic Kidney Disease	18 (40.92%)
Lower Urinary Tract Disease	17 (38.63%)
Cystitis	9 (20.45%)
Total	44 (100.00%)

Table 9. Diseases of the digestive system of felines treated at the School Veterinary Clinic (SVC) of the Santa Catarina Federal University (UFSC) between 2015 and 2022.

Disease	Prevalence (N/%)
Endooparasitosis	7 (43.75%)
Pancreatitis	5 (31.25%)
Gastritis	4 (25.00%)
Total	44 (100.00%)

also revealed a higher incidence in felines, with 40.92%, compared to canines, which presented only 1.30%. This can be attributed to the smaller amount of nephrons in cats, about 250 thousand compared to the 450 thousand found in dogs. This disparity in the number of nephrons makes cats more vulnerable to kidney damage, which can lead to a more significant destruction of kidney tissue in response to any injury (Malard *et al.*, 2020; Mazutti; Ferreira, 2021). Concerning the 9 cases of cystitis, two were bacterial (22.20%), five idiopathic (55.60%), and 22.20% were still to be clarified.

The second most prevalent system in feline cases was the digestive system (Table 9), with endoparasitosis (43.75%), pancreatitis (31.25%), and gastritis (25.00%) being the most frequent. The high prevalence of verminosis among felines is consistent with Marques *et al.* (2017), who verified that 31.90% of felines were positive for endoparasitosis in Porto Alegre. According to Dantas-Torres (2020), feline parasites may be mainly due to feeding, such as ingesting contaminated intermediate or paratenic hosts, ingesting contaminated water, and contamination by other individuals.

The third highest prevalence in felines was dermatology, with 39.29% of cases of dermatophytosis, 39.29% of otitis, and 21.42% of flea allergy dermatitis (FAD). Also, concerning otitis, 9.10% corresponded to fungal etiology, 9.10% are bacterial, and 81.80% are still to be clarified. This result is similar to that obtained by Silvestre *et al.* (2021), in which 24.00% of otitis cases in felines were observed, followed by 20.00% of patients with dermatophytosis.

Our study showed a high prevalence of diseases or etiologies to be clarified, which can be attributed to the tutors'

Table 10. Dermatological diseases of felines treated at the School Veterinary Clinic (SVC) of the Santa Catarina Federal University (UFSC) between 2015 and 2022.

Disease	Prevalence (N/%)
Dermatophytosis	11 (39.39%)
Otitis	11 (39.39%)
Flea Allergy Dermatitis	6 (21.42%)
Total	28 (100.00%)

non-acceptance of the requested complementary tests or continuity of follow-up to make a definitive diagnosis. Still, some animals presented more than one suspicion or diagnosis, remaining inconclusive. This may be related to the fact that tutors seek SVC/UFSC in situations of social vulnerability, such as those who cannot perform all the necessary exams. Inconclusive diagnoses can represent a challenge for animal health professionals since diagnostic uncertainty can make it difficult to define the best course of treatment and care for the animal.

CONCLUSIONS

The importance of data collection is emphasized, considering that this study is the first clinical prevalence study in Santa Catarina concerning the first seven years of treatment of the SVC/UFSC, indicating the most prevalent conditions in our region, serving for future studies. Understanding the distribution of the primary diseases in a given location is fundamental for professionals in the area since it helps create an epidemiological profile of the animal population served and implement more effective prevention, diagnosis, and treatment strategies.

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