

THE INCIDENCE OF PANOSTEITIS IN DOGS ADMITTED IN SURGERY CLINIC OF THE FACULTY OF VETERINARY MEDICINE TIMISOARA - RETROSPECTIVE STUDY (2000-2015)

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Abstract

The complete medical records of nine thousand five hundred and forty-one dogs who were admitted in the Surgery Clinic of the Faculty of Veterinary Medicine Timisoara, between years 2000 and 2015 were reviewed. In this study we included one hundred fifty-four dogs which have been diagnosed with panosteitis. We reported the signalment, bodyweight, breed, gender, clinical features and treatments. The extracted data were statistically processed and compared with another studies Panosteitis is an idiopathic disease of the young dogs, which usually affects large breeds. Long bones are preferentially affected. Clinical signs are lameness, decreased appetite and activity, rarely muscular atrophy, painful diaphysis at palpation. The radiographic modifications are essentially, an increased density of the medullary cavity, loss of normal trabecular pattern, periosteal reaction. In medical records of the Surgery Clinic of Faculty of Veterinary Medicine Timisoara canine panosteitis is a common orthopedic condition in the growing dogs and it affects large breeds. The German shepherd and mixed breed are most commonly affected with panosteitis. The predilection for males to have panosteitis is reliable and important. An acute onset of mild to moderate lameness is the typical history that was registered. The treatment was based on rest associated with anti-inflammatory drugs administration.

Key words: dog, panosteitis.

INTRODUCTION

Panosteitis in dog was first described in 1951 by Baumann and Pommer, and by Gratzl all cited by Lenehan and Fetter, 1985, and Montgomery, 2015. The disease has been referred to in the veterinary literature as juvenile osteomyelitis (Baumann and Pommer, 1951), enostosis (Burt and Wilkinson, 1972), eosinophilic panosteitis (Riedesel, 1969), and canine panosteitis (Bohning et al., 1970) – all cited by Lenehan and Fetter, 1985.

Our objective was to investigate the incidence of panosteitis in dogs admitted in Surgery clinic of the Faculty of Veterinary Medicine Timisoara between years 2000-2015 and to compare the data collected (bodyweight, breed, gender, clinical features, diagnosis and treatments procedures) with the literature reports (Bohning et al., 1970; Breur et al., 2001; LaFond et al., 2002; Lenehan and Fetter, 1985; Montgomery, 2015).

MATERIALS AND METHODS

Medical records of the Surgery Clinic of Faculty of Veterinary Medicine Timisoara registered between 2000 and 2015 were reviewed.

Signalment, breed, bodyweight, gender, clinical features, lameness degree at presentation (Table 1), diagnosis procedures, and methods of treatment were obtained from the medical records.

Table 1. Lameness degree assessing scale

Degree	Description
0	Normal attitude in station and in walking – without lameness
1	In walking difficulties, especially at rapid carriage – fine lameness
2	In walking difficulties, intermittent lameness in rapid walking
3	Evident lameness at every step, pain
4	The leg pull out of support in station and in walking, intense pain

The extracted data were statistically processed and compared with another studies (Bohning et al., 1970; Breur et al., 2001; LaFond et al., 2002; Lenehan and Fetter, 1985; Montgomery, 2015).

RESULTS AND DISCUSSIONS

Data collected out of medical records owned of Surgery Clinic of the Faculty of Veterinary Medicine Timisoara, between years 2000-2015 are presented in table 2.

Table 2. Medical records

Year	Total number of dogs who entered the clinic	Number of dogs with musculoskeletal problems	Number of dogs with panosteitis
2000	516	135	4
2001	308	88	5
2002	266	72	2
2003	347	94	5
2004	235	78	4
2005	641	279	1
2006	500	193	5
2007	556	251	6
2008	644	158	6
2009	480	183	15
2010	758	344	19
2011	791	242	20
2012	708	113	6
2013	947	172	22
2014	1108	229	19
2015	736	158	15
Total	9541	2789	154

Nine thousand five hundred and forty-one dogs were presented from 2000 - 2015 to Surgery Clinic of Faculty of Veterinary Medicine Timisoara, for examination of different surgical diseases of which 2789 dogs had musculoskeletal problems. LaFonde et al., 2002 reported 27% of all dogs (300,122) submitted in ten veterinary teaching hospitals of USA presented musculoskeletal disorders. In our study dogs with orthopaedic problems represent 29.23%.

Based on history, clinical and radiographic examination, the diagnosis was defined as canine panosteitis in one hundred fifty-four dogs that represent 1.61% of total dogs with surgical problems. Breur et al., 2001, in Genetic Musculoskeletal Diseases reported an incidence of 2.6/1000.

The breeds affected of panosteitis are presented in table 3.

In our study panosteitis was found in German shepherd dogs (19.48%), in mixed breed (18.83%), in other twenty-five large breeds (59.11%), and only 2.58% at small breeds. Total breeds affected were 31. The most commonly represented breeds were large breeds - 26/31 (84%) of which 18.83% were mixed breed. Small or toy breed was represented by 2 different breeds – 2/31 (6%).

Table 3. Breed affected of panosteitis

	Breed	Number of dogs	% of dogs with panosteitis
1	German shepherd	30	19.48
2	Mixed breed	29	18.83
3	Rottweiler	15	9.74
4	Labrador	12	7.79
5	Caucasian Shepherd	6	3.89
6	Golden Retriever	5	3.24
7	American Stafford Terrier	4	2.59
	Cane Corso	4	2.59
	Doberman	4	2.59
	Romanian Mioritic Shepherd	4	2.59
8	Berger Blanc Suisse	3	1.94
	Bichon	3	1.94
	Boxer	3	1.94
	Deutsche Bracke	3	1.94
	French Bulldog	3	1.94
	Siberian Husky	3	1.94
	Saint Bernard	3	1.94
9	Belgian Shepherd	2	1.29
	Bullmastiff	2	1.29
	Bullterrier	2	1.29
	Central Asian Shepherd	2	1.29
	Terra Nova	2	1.29
10	Tosa Inu	2	1.29
	Beagle	1	0.64
	Bernese Mountain	1	0.64
	Carpathian Shepherd	1	0.64
	Dogo Argentino	1	0.64
	Pitbull	1	0.64
	Poodle	1	0.64
Samoyed	1	0.64	
Vizsla	1	0.64	

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Total breeds affected were 31. The most commonly represented breeds were large breeds - 26/31 (84%) of which 18.83% were mixed breed. Small or toy breed was represented by 2 different breeds – 2/31 (6%). In a study (Bohning et al., 1970) of 100 dogs with panosteitis 78% were German shepherds. In another studies Montgomery, 2015, reported for German shepherd dog a 39% prevalence of panosteitis similar with LaFond et al., 2002, that presented a high odd ratio for Great Pyrenees, Mastiff, German shepherd, Chinese Shar-pei and Schnauzer.

Genetic influence or cause of panosteitis is a consideration because of predilection for certain breeds (Montgomery, 2015). A purely genetic cause is doubtful because so many breeds are affected (LaFond et al., 2002; Montgomery, 2015).

The majority of panosteitis patients are aged between 5 to 12 months with a median of 8 month, but the age range is from 2 months to 6 years old. Data recorded was similar with study of Bohning et al., 1970, Lenahan and Fetter, 1985, and Montgomery, 2015.

The male-to-female ratio was 1:0.46 (105/49), 68.18% were male similar with interval 67-84% for males encountered in literature (Bohning et al., 1970; LaFond et al., 2002; Montgomery, 2015).

The mean weight for dogs with panosteitis was 17.8 Kg in the situation when most frequent cases were the young dog of large breeds.

According to lameness degree assessing scale, the lameness ranges from 1-2 degree (83.12%) to degree of 3-4 for 16.88% of 154 dogs with panosteitis. Similar data were reported in literature (LaFond et al., 2002).

The diagnosis was based on clinical signs (lameness, decreased appetite and activity, rarely muscular atrophy) and examination findings (pain appears in affected bone and is exacerbated and localized by deep palpation of the bone). Confirmation via radiographs was needed in 64.94% of cases.

The radiographic signs of panosteitis were observed (increased radiolucency of the medullary canal, increased density of the medullary canal, loss of normal trabecular pattern, and in four cases periosteal reaction) preponderant in long bones (humerus, radius, ulna, tibia and femur). Similar localisation was

reported, but the most commonly affected bone differs among reports (Bohning et al., 1970; LaFond et al., 2002; Montgomery, 2015).

The investigation regarding the treatment of the 154 cases diagnosed with canine panosteitis revealed the indication to rest and use of therapy with NSAIDs in 63.64% dogs, and corticosteroid therapy in 36.36% of cases with chronic or severe evolution (3 or 4 degree of lameness). Similar therapeutic options were reported in literature (LaFond et al., 2002; Montgomery, 2015).

CONCLUSIONS

In medical records of the Surgery Clinic of Faculty of Veterinary Medicine Timisoara canine panosteitis is a common orthopedic condition in the growing dogs and it affects large breeds.

The German shepherd and mixed breed are most commonly affected with panosteitis.

The predilection for males to have panosteitis is reliable and important.

An acute onset of mild to moderate lameness is the typical history that was registered.

The treatment was based on rest associated with anti-inflammatory drugs administration.

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