

Occurrence of Canine Periodontal Disease

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Abstract

Canine periodontal disease was one of the most common oral cavity diseases affecting both health and quality of life. The present study was conducted to record the occurrence of canine periodontal disease in relation to age, breed, sex and type of diet. The overall occurrence recorded in the present study was 83.44 per cent. The occurrence of canine periodontal disease in relation to age, breed and sex revealed highest in more than 8 years, smaller breeds of dogs and in male dogs. The occurrence in relation to diet revealed highest in dogs fed with soft diet when compared with those fed with mixed and hard diets.

Keywords: periodontal disease, occurrence, age, breed, diet

Periodontal disease (PD) was one among the most widespread disease of oral cavity affecting 44 to 80 per cent of dogs (Jeusette *et al.*, 2016). Periodontal disease was a plaque-inducing disease affecting any part of the periodontium i.e., gingiva, cementum, periodontal ligament and alveolar bone (Nabi *et al.*, 2014) and bacterial biofilm was mainly responsible for the development of disease (Hasan and Palmer 2014).

The present study on occurrence of periodontal disease was conducted in Veterinary Clinical Complex, NTR College of Veterinary Science, Gannavaram from May 2024 to December 2024. A total of 302 dogs with an age of more than one year were screened for recording the occurrence of periodontal disease based on clinical signs like gingivitis, halitosis, drooling of saliva, deposition of calculus, discomfort on eating, gingival bleeding and pawing the mouth. The occurrence of canine periodontal disease (CPD) was further analysed in relation to age, breed, gender and diet.

In the present study, the occurrence of canine periodontal disease recorded was 83.44 per cent (252/302) in relation with the number affected to the number screened in per cent from May 2024 to December 2024 (Table 1). Age wise occurrence of canine periodontal disease revealed that dogs of more than 8 years age group (43/46, 93.47%) were most commonly affected followed by 4 to 8 years age group

(116/138, 84.05%) and least in dogs aged between 1 to 4 years (93/118, 78.81 %).

Occurrence of canine periodontal disease recorded in the present study was in concurrence with that of Shearer (2009), Kouki *et al.* (2013) and Eyarefe *et al.* (2014) who reported the occurrence as 85.00, 80.00 and 82.46 per cent respectively. The present findings are in partial agreement with Ranjan *et al.* (2010), Oba *et al.* (2018) and Kumar and Xaxa (2021) who recorded the occurrence as 68.90, 60.00 and 59.67 percent respectively. Sarangamath *et al.* (2022) reported that the variation in the occurrence of canine periodontal disease documented by different workers might be due to the differences in sampling size, age, food habits, concurrent disease, owner awareness and adaptability of preventive measures which had a direct influence the accumulation of plaque and calculus. The present findings are almost in agreement with Berryhill (2005), Ray and Eubanks (2009) and Garanayak *et al.* (2019) who reported that approximately 75-85 per cent of dogs exhibit some form of periodontal disease by two years of age.

In the present study the highest occurrence of CPD was seen in Shih tzu (25/25, 100%) followed by Pomeranian (24/25, 96.00%), Spitz (21/22, 95.45%), Pug(18/19, 94.74%), Labrador Retriever (34/36, 94.44%), Mongrel (42/46, 91.30%), Golden Retriever (25/29, 86.21%), German Shepherd (18/21, 85.71%), Beagle (14/18, 77.78%), Rottweiler (11/20, 55.00%), Belgian Malinois (12/24, 50.00%) and least in Great Dane (8/17, 47.06%). Breed wise occurrence

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of periodontal disease in the present study was in agreement with Debowes (2010), Ranjan *et al.* (2010) and Khatariya *et al.* (2020) who reported that small, toy and brachycephalic breeds were more susceptible for the development of periodontal disease due to the overcrowding and rotation of teeth. Henty *et al.* (2022)

reported that malocclusion and overcrowding of teeth in smaller breeds of dogs increased the occurrence of PD when compared with larger breeds of dogs. Shewale *et al.* (2021) reported that overcrowding resulted in the development of more crevices leading to the accumulation of dental plaque.

Table I: Occurrence of canine periodontal disease ase

S.No	No. of dogs screened	No. affected with CPD	Percentage affected with CPD out of No. Screened
1.	302	252	83.44

Table II: Age wise occurrence of canine periodontal dise

S.No.	Age group	No. of dogs examined (n=302)	No. of dogs affected with CPD (n=252)	Percentage affected with CPD out of the dogs examined
1.	1 to 4 years	118	93	78.81
2.	4 to 8 years	138	116	84.05
3.	8 years and above	46	43	93.47
Total		302	252	

The present study revealed highest percentage of occurrence in male dogs (137/159, 86.16%) when compared with female dogs (115/143, 80.42%). The occurrence of periodontal disease in the present study and was in accordance with Vani *et al.* (2007) and Kumar *et al.* (2008) who recorded higher occurrence in male dogs when compared to female dogs. Bhardwaj *et al.* (2021) reported that the higher occurrence of periodontal disease in the present study might be due to the preference of rearing male dogs over female dogs in the area under study.

CPD in relation to diet in the present study revealed highest occurrence in dogs fed with soft diet (148/156, 94.87 %) followed by mixed diet (67/93, 72.04%) and least in dogs fed with dry diet (37/53, 69.81 %). The present study findings are in accordance with Kyllar and Witter (2005), Gawor *et al.* (2006) and Oba *et al.* (2018) who found that feeding on soft diet increased the frequency and severity of periodontal disease. Cunha *et al.* (2022) reported that when dogs were fed with soft diet mechanical abrasion on the dental surface decreases resulting in the accumulation of plaque and calculus. Ranjan *et al.* (2010) opined that when dogs were fed with dry food, chewing results in the mechanical disruption of the accumulated plaque and promotes the self cleaning action while Bjone *et al.*

(2005) reported that chewing stimulated the production of saliva which contains antibacterial agents that helps in keeping the mouth clean.

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