



## Clinical Results of Canine Periodontitis in Patients Treated in Quevedo, Los Ríos, Ecuador

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### Abstract

The purpose of this research was to evaluate the clinical results of periodontitis in canines from the city of Quevedo, Ecuador, given its clinical importance; This study was carried out from July to December 2021. Each clinical case was processed with the standard perm formula. dentition, analyzing the total number of teeth, giving it a score, according to the Veterinary Periodontal Index (IPV) that estimates these values. The simple chi square statistic was used, the percentage frequency of periodontal disease was determined, the results of periodontal disease in the patients attended were determined, concluding that the highest percentages were 42.2% with gingivitis in the age group of 6 years and older, 26.6% in the same age group with mild periodontitis and 50% moderate periodontitis. in the age group from 3 to 6 years; Another important conclusion was that the patients attended had never received dental cleanings before.

**Keywords:** Canines; Periodontal Disease; Gingivitis; Periodontitis

### Abbreviations

PD: Periodontal Disease; IVP: Periodontal Veterinary Index; I: Incisors; C: Canines; P: Premolars; M: Molars

### Introduction

In 1945, the first Veterinary Dental Institute was created in Vienna, then the American Odontological Society was established, which undoubtedly favored the development achieved today in this specialty in favor of animals [11]. Canine periodontitis, also known as Periodontal Disease (PD) groups different infectious conditions that lead directly to inflammation in the anatomical, muscular and bone structures that surround the teeth, giving them sustenance and support [11]. This process is produced mainly from the formation of bacterial plaques on teeth and gums, due to inadequate oral hygiene and the continuous accumulation of food remains, which in turn promote the development and multiplication of bacteria, forming tartar, by reacting minerals, saliva and tooth enamel, causing gingivitis, inflammation that, if not treated early, gives rise to this PD, constituting a common cause in canines

older than two years, generally causing falls of the pieces and other more advanced processes, which can affect different organs and systems [7].

Various studies have reported a high frequency of PD in dogs, which have allowed us to understand the role of dental plaque and other associated factors, such as age, size of the animal, head biotype, diet and chewing behavior [11]. PD affects systemic health, as there is a positive correlation between the severity of PD and histological changes observed in the heart, lungs, kidneys, and liver of dogs. Within the clinical picture, the symptoms that we can highlight as very common observed in the daily clinic, these are: loss of appetite, gingivitis, halitosis, difficulty chewing and swallowing, in addition to abscesses [7].

If it has not been possible to prevent the process with adequate diets, daily brushing, and periodic cleanings carried out by professionals, then the correct administration of antimicrobials plays a key role in treating PD, together with other indications within medical or surgical therapy, depending on the patient. clinical case.

Internationally, there has been awareness of the importance of pathologies of the oral cavity of canines and felines, especially in geriatric patients, in whom it is vital because it affects their ability to feed, affecting their general condition [1].

The objective of this research was to assess the clinical results of periodontitis in 100 canines in the city of Quevedo, given its medical importance.

## Materials and Methods

The study was carried out from July to December 2021, in Quevedo, Los Ríos, Ecuador. 100 medical records of patients diagnosed with chronic disease were selected, all patients older than 18 months, without distinguishing between races or sexes, attended in 3 veterinary offices, without the main reason for consultation having necessarily been PD, each clinical case was processed, with the formula standard of the permanent dentition, Incisors (I) 3/3, Canines (C) 1/1, Premolars (P) 4/4 and Molars (M) 2/3; analyzing the total of their dental pieces, giving a score to each piece, according to the Veterinary Periodontal Index (IVP) that estimates these values [12], cited by [8].

1. There are no signs of gingivitis or periodontitis.
2. Gingivitis. Gum swelling and bleeding on probing, but no loss of attachment.
3. Mild periodontitis. The above, plus the initial signs of destructive periodontitis. Periodontal pocket of 3-5 mm, loss of union of 0-2 mm, tooth mobility grade 0 or 1, and furcation grade 0 or 1.
4. Moderate periodontitis. Periodontal pocket of 5-7 mm, loss of union of 2-4 mm, dental mobility grade 1 or 2 and degree of furcation involvement 1 or 2.
5. Severe periodontitis, periodontal pocket with more than 7 mm, union loss greater than 4 mm, tooth mobility grade 2 or 3 and furcation grade 2 or 3.

The average of the final values of all the teeth present for each patient is the IVP and the values are interpreted as

IVP = sum of the IVP of each tooth/number of pieces examined

- Normal or healthy (< 0.1),
- Gingivitis (0.1 - 1.0),
- Mild periodontitis (1.1 - 2.0),

- Moderate periodontitis (2.1 - 3.0),
- Severe periodontitis (3.1 - 4.0).

## Results and Discussion

The experiment was carried out in three offices, where 100% of the selected medical records of canine patients with this pathology were analyzed, using the simple Chi square statistician, the percentage frequency of periodontal conditions was determined.

Table 1 shows a significant increase in the incidence of PD in relation to the age of the patients; in table 2, it can be seen that the number of canines with greater absence of teeth grows as they advance in age and in table 3, the sex of the population studied is observed; table 4 shows the diet they received at the time of the study, individually suggesting that changes be made to them for the benefit of each patient; In table 5, the information referred to dental cleaning appears, significantly observing that the absence of this important practice predominates.

Upper arch teeth were more affected than lower arch teeth (34.1 vs. 25.0%,  $p < 0.05$ ) and premolars were the most damaged (58.1%), followed by incisors (20.3%), molars (14.5%) and canines (7.1%) ( $p < 0.05$ ).

With respect to other studies, the frequency of damage to the oral cavity is considered very high in the patients selected for this research, it may be due to the fact that many veterinary doctors do not examine the oral cavity in detail, they underestimate the factors that predispose the appearance of these processes, such as giving good information to pet owners about the proper nutrition that should be offered to them, the poor physiological chewing of these carnivores, the presence of deciduous teeth, poor dental positions, as well as systemic diseases such as immune, renal and hepatic insufficiencies.

## Conclusion

The results of periodontal disease in the patients attended were determined, highlighting the highest percentages with 42.2% with gingivitis in the age group of 6 years and over, 26.6% in the same age group with mild periodontitis and 50% moderate periodontitis. in the age group from 3 to 6 years.

Ages(by Years)	Without Periodontitis		Gingivitis		Periodontitis mild		Periodontitis moderate		Total from cases
	n	%	n	%	n	%	n	%	
1-3	9	47.3	4	21.5	2	10.5	4	21.5	19
3-6	2	5.5	7	19.4	9	25	18	50	36
6 and more.	2	4.4	19	42.2	12	26.6	12	26.6	45
Sum	13	13	30	30	23	23	34	34	100

Table 1: Periodontitis results according to age.

Ages(by Years)	0		Up to 8 pieces		Up to 16 pieces		Up to 24 pieces		Total from cases
	n	%	n	%	n	%	n	%	
1-3	2	15.3	9	62.3	2	15.3	0	0	13
3-6	4	14.2	17	60.7	4	14.2	3	10.7	28
6 and more.	8	13.5	39	66.1	6	10.1	6	10.1	59
Sum	14	14	65	65	12	23	9	9	100

Table 2: Loss of teeth according to age.

Sex	Total	Percentage
Females	61	61%
Males	39	39%
Total	100	100%

Table 3: Sex of the study population.

Alimentación	Total	Percentage
Home made	31	31%
Balanced comercial	51	51%
Mixed	18	18%

Table 4: Food received during the study.

Dental cleaning	Total	Percentage
Biweekly	0	0%
Monthly	0	0%
Never	100	100%
Total	100	100%

Table 5: Dental cleaning.

The patients attended never received dental cleanings.

**Conflict of Interest**

There were no conflicts of any kind in the development of the

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