

Comparison of mast cell counts in cats with periodontitis and its relation with the severity of inflammation

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Abstract

Periodontitis is an inflammatory disease that can lead to tooth loss. Mast cells are inflammatory cells that can contribute to the occurrence of periodontal disease. Other studies had different and contradictory results of mast cells and their relationship with periodontitis. In this study, the number of mast cells in cats with periodontitis, as well as their relationship with the severity of inflammation and clinical attachment loss were investigated. This study was conducted on 75 adults DSH cats of both male and female in five groups, and each group consisted of 15 cats. Four groups were considered according to four stages of periodontitis and one group as control (healthy). Biopsy specimens were prepared from the gums, were processed by standard histological methods, and were stained with Toluidine blue and Hematoxylin and Eosin. There was a significant difference in the number of mast cells among the studied groups. The number of these cells was increased with disease progression. It was the lowest in healthy cats (1.07 ± 0.37) and was highest in the fourth stage of periodontitis (25.21 ± 1.61). The number of mast cells with the severity of inflammation and clinical attachment loss had a direct and significant relationship. The severity of inflammation and bone lysis had a significant difference in the third and fourth grades of the disease. The direct and significant relationship between the number of mast cells and the severity of inflammation and the various stages of periodontitis revealed that these cells play an important role in the pathogenesis of periodontal disease.

Key words: Mast cells, Periodontitis, Gingivitis, Periodontal ligament, Cat

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