A-30 Some histopathological alterations in the interdental alveolar bone with age and advancing chronic inflammatory periodontal disease in the Sprague Dawley rat

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There has been an increased emphasis on the age changes of the periodontium. Animal models have been used to study age changes in the periodontium. An important quantifiable parameter for chronic inflammatory periodontal disease (CIPD) is the loss of alveolar bone. The main objective of the present study is to measure the histological loss of interdental septal alveolar bone height with advancing age and naturally occurring CIPD in the Sprague Dawley rat.

30 each of 3 months old, 1 year old and 2 years old male Sprague Dawley rats (total no. = 90) were sacrificed and the interdental area between the right mandibular first molar tooth and the right mandibular second molar tooth was examined with the light microscope using an eye piece graticule. The distance from the cemento-enamel junction (CEJ) to the crest of the interdental septal alveolar bone was measured in mm. The distance between the CEJ and the alveolar crest in the 3 months old, 1 year and 2 years old rats were 0.79 ± 0.03 mm, 0.88 ± 0.29 mm and $1.14 + 0.54$ mm respectively. There was a positive ($r=0.34$), linear ($y=0.17x+ 0.59$) and significant ($p<0.01$) correlation between the advancing age and the distance between the CEJ and the interdental septal alveolar bone crest.

It could be concluded that, the height of the crest of the interdental septal alveolar bone decreases with advancing age. It is similar to the observations of others. Further, it could be expected that CIPD contributes in some extent to the decrease in the height of the interdental septal alveolar bone. However, the histopathological preparation of the rats so far studied in the old age group showed some disorientation in the arrangement of the supracrestal transeptal fibre bundle groups only.