**ABSTRACT**

The immune system plays an important role in the pathogenesis of periodontal diseases. The host may modulate periodontal inflammatory reactions and it determines variances in the individual susceptibility and in the periodontal disease progression speed. Osteoporosis and alcoholism are described as risk indicators of periodontal disease among the systemic acquired factors. The current study aims to analyze chronic alcohol consumption influence on induced periodontitis in rats presenting estrogen deficiency. Sixty rats approximately 90 days old were used in the experiment; they were divided into two groups: correlated surgery (OVZ) or surgical ovariectomy simulation (SHAM). Each group was divided into three subgroups: (C) control diet, (A) ethanol containing 20% liquid diet and (I) par-fed control diet. Thirty days after castration the diet and the experimental periodontitis induction were kept for 56 days. Interproximal regions between the first and the second lower left molar and the respective contralateral site without periodontal disease induction were assessed for inflammatory features. Hormone deficiency resulted in important inflammatory changes concerning the meaning of SHAM-C and OVZ-C. The ethanol diet has resulted in inflammatory changes to both groups SHAM-A and OVZ-A in the absence of periodontitis, with also greater severity when combined with ovariectomy. It was concluded that the association between estrogen deficiency and 20% ethanol was just relevant for sites without periodontitis disease induction, since it induces stronger severity in the inflammatory process in the presence of the inflammatory cells scattered in the conjunctive tissue and of the disorientation of periodontal ligament fibers.

Keywords: Alcoholism. Osteoporosis. Ovariectomy. Periodontal disease.