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Evaluation of mast cells in Odontogenic keratocyst without secondary inflammation: A histochemical study

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This study was performed to investigate the activity of mast cells along with their correlation with age in odontogenic keratocysts without secondary inflammation to determine if mast cell have primary role in pathogenesis of odontogenic keratocysts and to evaluate the relation between number of mast cells and age in odontogenic keratocysts. This retrospective cross-sectional study was carried out on n=39 samples totally in second (n=13), third (n=13) and fourth (n=13) decades of life histopathologically diagnosed as odontogenic keratocyst. Mast cells were mapped by toluidine blue stain and counted as total number and degranulated mast cells in four consequent high-power fields without any overlap and index of degranulation or degranulation ratio. The ratio of degranulated mast cells to total number of mast cells was calculated for each sample. The obtained data was analyzed statistically by one-way ANOVA in SPSS20 software. No statistically significant difference was observed between total number of mast cells and degranulated mast cells between groups. ($P>0.05$) Degranulation ratio or index was higher in second and third decades compared to fourth decade of life. ($P<0.05$) Results of present study showed presence of mast cells in odontogenic keratocyst was not related to inflammation so MCs might have a central and primary role in pathogenesis and growth of OKCs. As well, MC degranulation index was higher in younger adults (2nd and 3rd decades of life) which suggests MCs are more active in this age group.

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