"EXPRESSION OF CD34 AND CD68 IN PERIPHERAL GIANT CELL GRANULOMA AND CENTRAL GIANT CELL GRANULOMA: AN IMMUNOHISTOCHEMICAL ANALYSIS"

by

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ABSTRACT

Background & Objective: Central giant cell granuloma (CGCG) and Peripheral giant cell granuloma (PGCG) of jaws are relatively uncommon benign reactive disorders. These are characterized by the presence of numerous multinucleated giant cell granuloma (MNGC) and mononuclear cells within a stroma. The origin of the MNGCs is controversial; probably these originate from fusion of histiocytes, endothelial cells and fibroblasts. The aim of the study is to assess the expression of CD34 and CD68 in CGCGs and PGCGs to gain better understanding of the origin of MNGCs.

Methods: Twenty cases of each CGCGs and PGCGs were evaluated clinically, histopathologically and immunohistochemically for CD34 and CD68 proteins expression.

Results: The highest incidence of CGCG and PGCG were seen in third and fourth decade respectively with female predominance. The most common location of the CGCG and PGCG being posterior region of mandible and maxilla respectively. Both lesions showed predominantly ovoid mononuclear stromal cells and scattered irregularly shaped MNGCs.

Immunopositivity for CD34 was seen only in cytoplasm of endothelial cells of blood vessels. Whereas consistent cytoplasmic immunopositivity for CD68 was seen in the MNGCs and few stromal cells. Statistical significance was seen in age distribution, mean number of MNGCs, mean number of nuclei in MNGCs, CD68 expression and ratio of macrophages to MNGCs among two lesions.

Conclusion: Immunohistochemical evidence of this study shows that CD68 positive mononuclear cells are macrophages and MNGCs are derived from monocyte/macrophage lineage. Although the CGCGs share some clinical,

histopathological similarities with PGCGs, differences in mean number of nuclei in MNGC, CD68 immunoreactivity may underlie the distinct clinical behaviour.

Keywords: CD34; CD68; Central and Peripheral giant cell granuloma.