Egyptian Dental Journal, 46, 1315: *1320, July, 2000*

FINE STRUCTURE OF ODONTOGENIC MYXOMA: HISTOGENESIS AND BIOLOGICAL BEHA VIOR.

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ABSTRACT

The odontogenic myxoma (OM) or myxofibroma of the jaw is described in the literature as being aggressive, nonmetastasizing, slowly growing tumor which possesses diagnostic and therapeutic problems due to its morphology and biological behavior. Inspite of the numerous relevant papers dealing with both aspects of this neoplasm, no agreement was reached from the morphological view point. Identification and classification of myxoma cells as well as their cytogenetic relations are still unclear. Based on the electron microscopic study, the aim of this work was to clarify the morphology of the structural cells related to the biological behavior of this tumor. Five cases (3 females and 2 males) with odontogenic myxoma, were found in the files of oral pathology department, faculty of dentistry, Alexandria University. Paraffin sections were stained with H & E and examined by the light microscope. In addition, small cubes of myxoma tissue were taken from selected cases of paraffin blocks. These cubes were processed to be studied by the electron microscope. The results showed that the OM contains 4 morphological forms of cells believed to be originated from one mesenchymal cell type. The cells are the fibroblasts, myofibroblasts, undifferentiated mesenchymal. cells and another type of distinguished active secretory cell characterized by dilated rough endoplastic reticulum containing electron lucent homogenous substance similar to the matrix around these cells. These cells also showed active euchromatic nuclei with highly irregular nuclear membrane. Accordingly, it was concluded that the main cells responsible for the myxomatous tissue or what is called acid mucopolysaccharide matrix are active secretory cells which are believed to be derived either directly from the undifferentiated mesenchymal cells or from an apparent change in the fibroblasts.

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