Cairo Dental. Journal, 13 (3) : 483-499. 1997.

FIBROBLAST CELLS IN TISSUE CULTURE OF THE INTRA-ARTICULAR DISK OF RAT CRANIO-MANDIBULAR JOINT (A MORPHOLOGICAL ULTRASTRUCTURAL STUDY)

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ABSTRACT

Fibroblast cells are sensitive to their normal extracellular matrix containing so many bioactive molecules and collagen fi- bers, as well as other cells. An in-vivo like system was established to study the behaviour of fibroblasts in-vitro when cul-tured together with the surrounding extracellular substratum. Thirty intra-articular disks of the craniomandibular joints were surgically obtained from 15 young adult albino rats, then 26 were cultured in a chemically defined medium for different per- iods, and the other 4 disks were used as controls. Examination of sections obtained from these disks revealed that, the pro- liferation of fibroblasts started at about the 4th day in culture, and reached maximum by the 7th day. This proliferation was keeping pace with differentiation and the cells formed a confluent monolayer with typical cobblestone appearance. On the 10th and 14th days, the fibroblasts were gradually dedifferentiating and exhibited different degrees of smashing up and break down. It can be concluded that this system is an excellent model for culturing and obtaining the fibroblast cells till 7 days to be used for many applications. Also, some modifications can be introduced to the system to improve its validity to culture the fibroblast cells for longer periods.

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