

REPAIR OF ARTICULAR CARTILAGE FULL THICKNESS DEFECTS WITH CULTURED CHONDROCYTES PLACED ON POLYSULPHONIC MEMBRANE - EXPERIMENTAL STUDIES IN RABBITS

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Abstract

Autologous osteochondral transplantation is one of the methods that can be used to create hyaline or hyaline-like repair in the defect area. The purpose of the present study was to repair the full-thickness articular cartilage defects in nine rabbits' knee joints with autologous cultured chondrocytes. An articular cartilage defect was created on the patellar groove of the femur. The defect was filled with the chondrocytes cultured *in vitro* and placed into the knee on a polysulphonic membrane. 8 weeks after the operation the reparative tissue was analyzed macroscopically and histologically. The surfaces of the reparative tissue were smooth, and the defects were filled with mature hyaline cartilage in five cases. In two cases the reparative hyaline cartilage was immature and there was worse integration of the grafted tissue into the adjacent normal cartilage. The surface of the grafted area was irregular, the reparative tissue was desintegrated and incompletely differentiated. The results suggest that transplantation of the autologous chondrocytes cultured *in vitro* and placed into the knee on the polysulphonic membrane is effective in repairing of the articular cartilage defect.

K e y w o r d s : chondrocyte cultivation, polysulphonic membrane, repair cartilage defect