

SUCCESSFUL TREATMENT OF TUMORS BY TRANSPLANTATION OF FIBROBLASTS IN IMMUNOISOLATION DEVICES

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Cell therapy involving the transplantation of cells with specific differentiated functions on a semi permeable membrane-enclosed (immunoisolation) device is a new approach in the treatment of human diseases. Mice bearing growing tumors of Ehrlich at the pads were treated with transfected murine fibroblasts encapsulated in immunoisolation devices. These fibroblasts are potentially tumorigenic and if encapsulated cannot escape from the device to develop a tumor.

The effectiveness of the treatment was measured by the growth of the tumors, analysed by the thickness of the pads of the animals measured with a pachymeter. All of the control animals (lacking implants or with empty devices) developed tumor at the challenge site (FIG.1), whereas the tumors from the animals that received devices implanted with cells showed complete regression of tumors (FIG.2) or slower growth of tumors. Similar results were obtained with another tumor: B16F10 melanoma. Studies are underway to understand the mechanism of action of the treatment with fibroblasts on the growth of the tumors.



FIGURE 1



FIGURE 2