7. Aspects of in Vivo Astrocytes Growing in Transparent Chamber Buried in Rabbit Brain

Tadamitsu Yamauchi and Ryoje Mii
Sakuragaoka Neuropsychiatric Hospital

Tsuneyuki Nakazawa and Jun Tominaga
Department of Neuropsych., Keio University

The studies reported here began in an attempt to determine how brain cells placed in a new transparent chamber in the brain of a rabbit which was kept in survival for about 1-3 months. The new transparent chamber with 2 layer crystal plates (each of 10 mm diameter, about 20-70 µ thick, kept 30-50 µ gap of each plates) was buried in the regio parietalis of 10 rabbits. Blood cells and fibroblasts filled up the whole surface of the chamber in an early stage which precedes brain cell growth. Within 2-3 weeks, brain cells, presumably astrocytes, capable of forming colony, migrated directly on the crystal plate. By using young material, the periphery of these cell colonies arranged irregularly coarse fibers looking like network formation (glial fibers).

Many gradually developed astrocytes, enlarged and elongated the cell processes, but not as long as the processes of cultivated astrocytes in vitro.

There were generally a few large cells in contact with the free border of glial fibers. These were mostly large polinuclear cells. Especially, when adult rabbits were used. These cells increased in number and some underwent extreme enlargement.

Those cells buried in that limited space where blood-brain barrier was broken may be a perfect equivalent to wholesome brain cells in other respect. Subsequent effect shall be observed adding experimental stimulus to the whole body, for example convulsion under stimulating drugs.

8. On the Relation between Bone Tumors and Nerve Tissues

Tadashi Igari, Syoiti Yuasa
Department of Orthopedic Surgery, Iwate Medical College

The author studied histologically the relation between bone tumors and nerve tissues, applying Seto’s silver impregnation method to the malignant bone tumor lately observed by himself.

A total of 11 cases of malignant tumors were observed; i.e. 4 giant cell tumors, 2 Ewing’s sarcomas, 1 osteogenic sarcoma, 1 chondrosarcoma, 1 fibrosarcoma, 1 malignant synovioma and 1 squamous cell carcinoma.

The authors found nerve elements in many parts of the specimens, collected from developing tumor tissues themselves, infiltrated parts of the bone marrow,