9. Experiences on the Treatment for Metastatic Brain Tumors

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Sixteen cases of metastatic brain tumor were treated during recent four years at National Center Hospital. The primary sources were 12 bronchogenic carcinoma, 2 breast carcinoma, one carcinoma of the bladder and one thyroid carcinoma. The location of the metastatic tumors were 6 in frontal lobe, 4 in parietal lobe, 4 in occipital lobe, 3 in temporal lobe and 2 in cerebellum. Direct invasion to the intracranial space from the skull metastasis were found in 3 cases.

Enucleation of the tumor was performed in 8 times in 5 patients, whereas decompression craniotomy was done in 2 cases. In 5 cases irradiation of electron-beam or intraarterial infusion of the anticancer chemotherapeutic drug using Mitomycin C were added to these surgical procedures. Among these, 4 cases are still alive after 10, 9, 8, and 6 months. Two patients with decompression craniotomy and chemotherapy, lived 2 and 10 months subsequently. There has been only one death due to hepatic necrosis.

Intraarterial infusion chemotherapy alone were done in 6 other patients who were in poor risk with generalized metastasis, were all died within 3 weeks.

The results of sole chemotherapy group were extremely discouraging but the combine treatment group showed some promise to the otherwise difficult situation of treatment of the metastatic brain tumor.

Indication of the operative treatments are
(1) Radical resection of the primary focus is possible.
(2) Brain is the only metastatic site or if distant metastasis exist, adequate treatment to those are possible.
(3) Single brain metastasis preferable.

10. A Few Problems Concerning the Ventriculo-atrial Shunt Operations

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Since 1961, ventriculo-atrial shunt operations have been used in our institutes for a series of 866 patients of various intracranial diseases as follows: infantile
hydrocephalus in 13, hydroencephalodysplasia in 3, the fourth ventricle tumor in 15, the other infratentorial tumors in 12, menigioma of tentorium cerebelli in 1, tumors in pineal region in 15, the other supratentorial tumors in 8 and others in 19. These patients were 11 days to 58 years of age. In every case were used a silicone-rubber tube with a slit valve at the end of the cardiac tube, made in Japan.

The shunting tube were passed through the various routes: from the right temporal region through V. facialis dextra in 63, through V. jugularis interna dextra in 14, through V. jugularis externa dextra in 12; from the right frontal region through V. facialis dextra in 4, through V. jugularis externa dextra in 6; from the left frontal region through V. jugularis externa dextra in 6; from the left frontal region through V. jugularis externa sinistra in 1; from the left temporal region through V. facialis sinistra in 1; through V. jugularis externa sinistra in 1; from the left occipital region through V. facialis dextra in 1, through V. jugularis externa sinistra in 1; 107 occasions in the 86 patients in total. Majority of these patients showed improvement of their symptoms after ventriculo-atrial shunt operations.

There occured, however, some problems following the shunt procedure. They are listed in the following: Occlusion of the shunting tube was found 24 times in 16 patients, that is, the occlusion was found at the ventricular tube 7 times in 6 patients, occlusion due to kinking of the tube at cervical region 3 times in 2 patients, occlusion at the cardiac tube 14 times in 8 patients. In these cases shunting operations were tried over again, 2 times in 8 patients, 3 times in a patient, 4 times in another patient, 5 times in 2 patients. In 3 of 12 autopsy cases, clots were found to be firmly attached and organized at various grades at the end of the cardiac tube in the right atrium, 12 days, 50 days and 1 year after operation respectively. However, the tube was patent in these 3 cases despite the presence of the clots. Two cases of hemiparesis and 3 cases of septicemia were brought about postoperatively. In a patient of pineal tumor Myodil ventriculography and ventriculo-atrial shunt operation were performed. Three months after the operation plain films revealed a few droplets of Myodil in the shunting tube. This patient is doing well without any complaints during the follow-up period of 10 months.

Some problems were discussed from our experience with 107 ventriculoatrial shunt operations in 86 patients of miscellaneous intracranial diseases.

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