11. Postoperative Massive Epidural Hematoma

—during or after ventricular decompressive procedure in hydrocephalic state—

Hiroshi FUKAI and Hiromu HASEGAWA

*Department of Neurosurgery, Brain Research Institute,
Niigata University School of Medicine*

Massive epidural hematoma may occur as a prompt or delayed complication of the surgical procedure of the hydrocephalic states due to congenital hydrocephalus and subtentorial space occupying tumor. 9 such cases are described with a review of seventeen cases in the literature.

These massive epidural hematomas are probably caused by followings; Sudden release of ventricular fluid both by ventricular tap and by operative procedure in the posterior fossa collapsed the dilated ventricles, which pulled upon the bridging vein and promoted the detachment of the dura mater. The separation of dura mater first occurred in the vicinity of the burr-hole. And the tear of the intervening vessels produced the epidural hematomas which created further dural detachment, and further massive epidural bleeding.

For that reason, attention must be directed to the rare occurrence of epidural or subdural hematoma as a complication of the ventricular decompressive procedure in the various hydrocephalic states.

12. Hemangioblastomas of the Brain

Keiji SANO, Takeo KUWABARA, Osamu SATŌ, Masakatsu NAGAI,
Toshiaki TAKIZAWA and Aung KYAW

Department of Neurosurgery, Faculty of Medicine, University of Tokyo.

The frequency of hemangioblastomas of the brain among brain tumors is not high, 1.2% among 2,500 cases of brain tumors in our clinic. But they have several interesting points and occupy a special position in brain tumors.

We reviewed here 30 cases of hemangioblastomas of the brain we have ever experienced and gave general discussion with special considerations to some interesting points.

The sexual preponderance fell on males, the male-to-female-ratio being 2:1.

The mean age at the onset of symptoms and signs was 35 years old in both sex. The mean age on admission was 36 years old in both sex and the mean

interval of duration of the symptoms and signs was comparatively short, one year and a month in males and one year and two months in females.

Among the initial symptoms and signs, headache was pretty frequent, which however was not always considered as the result of the increased intracranial pressure because of the rarity of the accompanying nausea or vomiting.

Among the symptoms and signs on admission, headache was supremely frequent and in this occasion it was one of the symptoms and signs of the increased intracranial pressure and was almost accompanied by other symptoms and signs of the increased intracranial pressure such as blurred vision, double vision and so on. In the cases of the hemangioblastomas in the posterior fossa, cerebellar signs such as staggering gait or ataxia was also often and the diagnosis of a tumor in the posterior fossa was not difficult.

The diagnosis of a tumor in the posterior fossa was decisive by vertebral angiography. We classified the findings of vertebral angiography into 3 types; one demonstrating sharply marked solitary shadow of the tumor (mainly cystic tumor with mural nodule), one demonstrating diffuse shadow of the tumor (solid tumor) and the one without shadow of the tumor but with dislocation of normal vessels indirectly suggesting the presence of the tumor (cystic tumor with mural nodule). There was no case with normal finding of vertebral angiography.

Among 30 cases, angiomatosis retinae (von Hippel's disease) was found in 2 cases, and an interesting chorioidal angioma was found in a case by carotid angiography.

Familial occurrence was ascertained in 3 cases in 2 pedigrees.

Among visceral abnormalities renal cyst was suspected in a case with hypertension by aortography.

Erythrocytosis was found in 9 cases, more frequently found in solid tumors in contrast with cystic ones. The behaviour of erythrocytosis according to the treatment of the hemangioblastomas was interesting. In 3 cases with total removal of the tumor, erythrocytosis disappeared after the operation and in 5 cases with partial removal of the tumor followed by irradiation, erythrocytosis disappeared in 3 cases. The activity of erythropoietin was measured in a case and abnormally elevated activity in the plasma was present in the case.

In most of the cases, the location of the tumor was in the posterior fossa, especially in the cerebellar hemisphere and the tumor above the tentorium was found in only 2 cases. Multiple tumors were found in a case.

Dividing the tumors in cystic and solid type, no difference of frequency was present in both types but the cystic type was mainly found in the cerebellum and the solid type in the medulla oblongata or area postrema.

The method of tissue culture of the hemangioblastomas may be helpful for the differential diagnosis from hemangiopericytomas or the measurement of the activity of erythropoietin.

Method of the operation was different according to the pathological type of

the tumor or the location of the tumor. Generally speaking, total removal was feasible for the cystic tumors with mural nodule and partial removal or decompressive procedure was suitable for the diffuse solid tumors.

Post-operative irradiation for such diffuse solid tumors proved to be effective for the improvement of the clinical symptoms and signs and for the prevention of recurrence.

13. Clinico-Pathological Investigation on the Urinary Disturbance and Lower Brain Stem Lesions

Hiraki HONDA and Komei UEKI

*Dept. of Neurosurgery, Brain Research Institute,
Niigata University School of Medicine*

Statistical observation of 665 patients who had been clinically diagnosed as brain tumors in our clinic, revealed that urinary incontinence in 7 cases and difficult urination in 70 cases were noted among 210 cases of posterior fossa tumors. The difficult urination was most frequently associated with the pontine and IVth ventricular, and less frequently with cerebellar tumors.

Histologically, 52 cases of brain tumors involved the lower brain stem were serially examined. In all cases of difficult urination, except for a case with direct tumor involvement, the locus coeruleus and adjacent brain tissues were more or less entangled with some non-neoplastic pathological changes, such as neuronal degeneration or marked accumulation of unusual intracytoplasmic granules etc.

The results were also suggestive that the dysfunction of the Locus coeruleus, which probably caused difficult urination in most cases, could be occurred mostly by secondary influences of the neoplasms; edema, circulatory disturbance or intracranial hypertension, rather than the direct tumor invasion. The urinary incontinence was observed in only 3 cases revealed the lesion of the ventral part of pontine reticular formation.

14. Pituitary Stalk Section for Recurrent Mammary Carcinoma

Sakae FUKUDA

Dept. of Neurosurgery, Shizuoka Red Cross Hospital

Takashi MIMURA

Dept. of Surgery, Shizuoka Red Cross Hospital