A-56. A Case of Cerebellar Hemoangioma with Synringobulbia

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We reported a case of 32 year old man who had cerebellar hemoangioma accompanied by syringobulbia. He complained of severe headache with vomiting on March 2, 1971 and two months later he felt same discomfort again. At that time he lost his consciousness for about 30 minutes, then he noticed dysarthria, dysphasia and disability of both legs. These symptoms disappeared gradually. Suddenly he complained of severe occipital headache with vomiting, dysarthria and dysphasia on December 2, but he was nursed only at home. He was admitted to our neurosurgical clinic on December 28. A bean size tumor in cerebellum was visualized by VAG and by means of operation it was confirmed that this tumor occupied forth ventricle and cerebellar vermis. Under this tumor we found syringobulbia which contained yellowish fluid and partially communicated with fourth ventricle. Microscopically this tumor was hemoangioma. Postoperative course was uneventful and dysarthria and dysphasia disappeared gradually.

We concluded that recurrent subarachmoidal hemorrhage from cerebellar hemoangiom obstructed the outlet of fourth ventricle, therefore hydrodynamic cerebrospinal fluid pressure made a communication to central canal and syringobulbia was formed gradually. This case was seemed to satisfy the Gardner's theory.

A-57. Hypothalamo-Pituitary Dysfunctions and Their Management in Craniopharyngioma, Chromophobe Adenoma and Suprasellar Meningioma

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Two kinds of endocrinological problems should be resolved to improve the results of radical operations for suprasellar masses. They are the endocrinological crisis in the acute stage after the operation and the long-lasting hypothalamo-pituitary dysfunctions retaining even through the whole life of the patients. The purpose of this report is to present the detailed clinical and endocrinological evaluations of the hypothalamo-pituitary dysfunctions after the radical operations of 21 cases with cranio-

pharyngiomas, 40 cases with chromophobe adenomas and 9 cases with suprasellar meningiomas, and their management.

Seven patients out of 21 with craniopharyngiomas died from insufficient hormonal replacement therapies or recurrence of the tumor (when subtotally removed).[3] Six patients out of 40 with chromophobe adenomas died mainly of panhypopituitarism.

The endocrinological crisis, consists of hyperthermia, circulatory collapse and disturbances of consciousness, appears immediately after the total or subtotal removal of the tumor, most severely in cases with craniopharyngioma and slightly in cases with chromophobe adenoma, and disappears within 2 weeks in most cases. The hypothalamo-pituitary dysfunction in the chronic stage after the operation manifests themselves mainly as long-lasting hypogonadism and hypothyroidism which remain for the whole period followed up (3 months–14 years) in both cases with craniopharyngioma and chromophobe adenoma, while adrenocortical dysfunctions seldom manifest themselves clinically in all cases except when the stress attacks on the very young patients with craniopharyngioma.[1),2),3)] In these cases, secretion of growth hormone and gonadotropin was estimated before and after operation. Markedly low basal level of GH in plasma or only slight increase below 5 mμg/ml of concentration of GH were noticed after the induction of hypoglycemia with insulin in most cases with craniopharyngioma and chromophobe adnoma (Fig. 1 and 2). Secretional function of gonadotropin was evaluated by increase of their concentration in plasma after intravenous administration of LH releasing factor. In every patient with craniopharyngioma or chromophobe adenoma, resting levels of LH and FSH were low and in 80% of the cases no or only poor increase of their concentration in plasma was observed (Fig. 3). Plasma cortisol and thyroxin levels were frequently decreased in cases with craniopharyngioma and chromophobe adenoma.

Two out of 9 patients with suprasellar meningioma showed panhypopituitarism before operation. One of them showed normal endocrine evaluation a month after the total removal of the tumor.

Preoperative administration of glucocorticoids bearing some salt action (hydrocortisone), postoperative elaborated steroid therapies in response to each case and management of water-electrolytes balance were essential for prevention of the endocrionological crisis. Long-term hormonal replacement therapies under conscientious regular endoctorine evaluations including estimation of GH, LH and FSH secretions would be commonly necessitated in the postoperative course of the tumors in the sellar region.

References

1) Matson, D. D. and Crigler Jr., T. F.: Management of craniopharyngioma in childhood. J. Neurosurg., 30: 377–390, 1969.
2) Takeda, F., Tsunoda, T., Aiba, T. and Kawafuchi, J.: Tumors around the 3rd ventricle, with special reference to the pre- and postoperative developmental and endocrine disturbances. 4th Conference on Specific Topics in Neurosurgery, 125–131, 1972 (in Japanese).
3) Takeda, F., Aiba, T., Kanoh, T., Tsunoda, T. and Kawafuchi, J.: Acute and chronic postoperative syndromes after the total removal of craniopharyngioma and their prevention and management. J.J.S.S. 73: 1516–1519, 1972 (in Japanese).

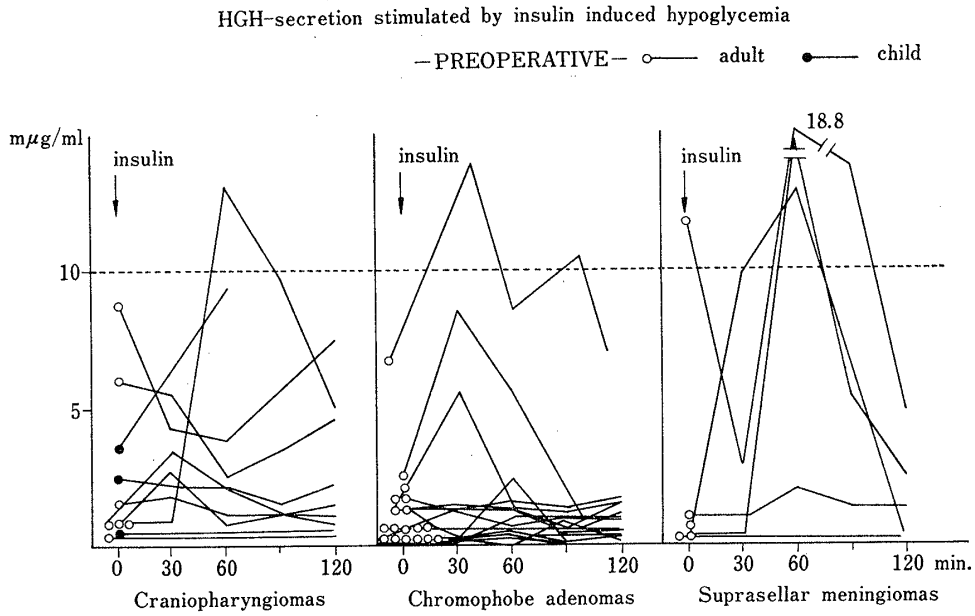

Fig. 1 Laboratory findings in patients with tumors in sellar region. HGH-secretion stimulated by insulin-induced hypoglycemia.

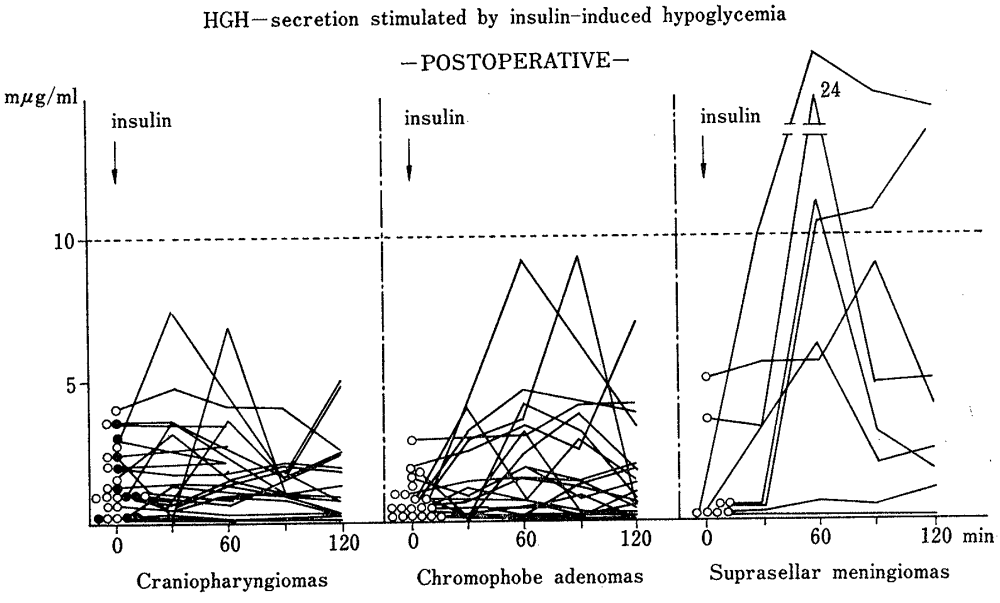

Fig. 2 Laboratory findings in patients with tumors in sellar region. HGH-secretion stimulated by insulin-induced hypoglycemia.

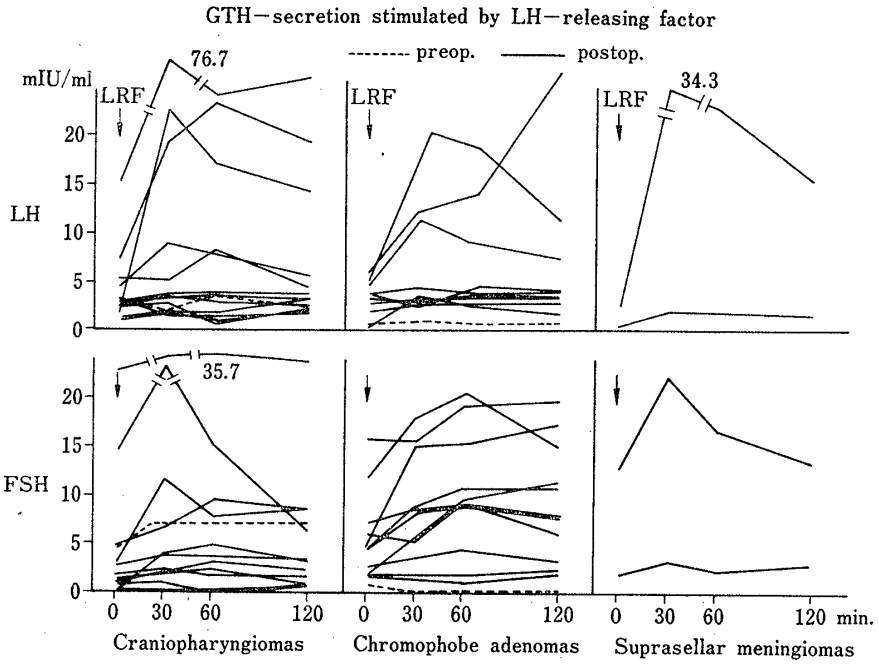

Fig. 3 Laboratory findings in patients with tumors in sellar region. GTH-secretion stimulated by LH-releasing factor.

A-58. Systematic Pituitary Function Tests of the Sellar and Parasellar Tumor Cases

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Systematic pituitary function tests of 14 sellar and parasellar tumor cases (8 craniopharyngiomas, 3 pituitary chromophobe adenomas, 2 tuberculum sellae meningiomas and a pinealoma in the chiasmal region; 1972, February–October) were studied using Insulin Tolerance Test for GH and ACTH, LH-RH Test for LH & FSH, and TRH Test for TSH.

Results were as follows: