59. The Tumours of The Skull

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There are 14 cases which originate from, invade or metastasize the base of the skull. They have various signs or symptoms of the cranial nerves. Nevertheless establishment of diagnosis is not so difficult, because plain craniogram or tomogram of the skull contribute much for it. Also inspection of the throat and the nasal cavity is sometimes so helpful.

60. Five Cases of Intracranial Hypertension of Unknown Etiology

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Five cases of intracranial hypertension of unknown etiology have been studied. Of five four cases were females. Ages ranged from 13 to 43 years. Head trauma, otologic diseases and endocrinological disorders were not considered to be significant etiologically. Obesity was noted in one case. There were no neurological focal signs in all of the cases and even no subjective symptoms of increased intracranial pressure such as headache, nausea and vomiting were complained in 2 cases and choked discs were discovered by chance. Enlarged ventricles were observed in 2 cases. Quality of cerebrospinal fluid was essentially normal except in one case in which total protein and cell count were increased. Electroencephalograms were abnormal in 3 cases. In 3 cases, choked discs and signs of increased intracranial pressure disappeared spontaneously and fluid pressures also returned to normal. In one case, lumbar punctures also returned to normal. In one case, lumbar punctures were repeated as a symptomatic therapy and thus the pressure increased acceleratedly. Unconsciousness and general emaciation developed and expired after one month of hospitalization. Autopsy revealed the normal brain both macroscopically and histologically except the marked pressure cone. As for another case, symptoms of acute

cerebral edema developed immediately after pneumoencephalography and died. Autopsy showed cerebral edema, especially marked in the cerebellum. Plexus chorioideus was normal and no space occupying lesion was seen. In the two autopsied cases, no sinus thrombosis was observed.

The etiology of high intracranial pressure in such cases is obscure and probably various. Prognosis is often favorable and symptoms disappear spontaneously. In 2 lethal cases, cause of death was considered iatrogenic. In management of intracranial hypertension without focal signs, just watching the course in parallel with careful control of water metabolism is recommended. If choked disc persists, subtemporal decompression is the treatment of choice.

61. The Study on the Effects of FRUCTON-M, Mixture of 45% Fructose Solution and 15% Mannitol Solution, for the Reduction of Increased Intracranial Pressure

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Osmotherapeutic agents are indispensable in the field of neurosurgery. In the 22nd and 23rd Annual Meeting of Japan Neurosurgical Society, we had reported the effects of hypertonic mannitol solution which is able to replace with hypertonic urea solution, and emphasized hypertonic mannitol solution is an ideal one, except great amount of solution has to be infused into the circulation system by application. This disadvantage of hypertonic mannitol solution was the point which should be improved in near future.

The authors had developed new osmotherapeutic agent, FRUCTON-M which contains 45% fructose solution and 15% mannitol solution with ratio of 3:1 after basic research of osmotherapeutic effect of 50% fructose solution.

For the sake of usage, FRUCTON-M was used at a rate of 7 cc/kg for 30–40 minutes by intravenous instillation.

The cerebrospinal fluid pressure drop rate was 41.5–95.2%, and 71.4% the average.

Reducing action lasted 120–360 minutes, and 246 minutes on the average.

The secondary rebound overshoot was observed in 9.5% of all cases, and completely same frequency and grade with hypertonic mannitol solution.