CEREBRAL GRANULOMA CAUSED BY SCHISTOSOMA JAPONICUM

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While infestation with Schistosoma japonicum occurs very frequently in Japan, cerebral schistosomiasis caused by this species is extremely rare. The first report of cerebral schistosomiasis in the literature, as far as is known, was an autopsy report by Yamagiwa23 in 1889. The second was an autopsy report by Shimamura and Tsunoda22 in 1905. Shimidzu,23 in 1935, apparently was the first to describe a case in which the lesion was verified by operation. Subsequently other reports of surgically verified cases were published.2–4,8,9,15,18,20,24,26,27 Kato and Ootsuka29 in 1950 operated on a patient in Japan who had been infected in China. Although many cases of cerebral schistosomiasis broke out among American troops after their landing on Leyte in the Philippines in October, 1944, this disease is still quite rare.

Following is an additional report of a case in which operation was performed.

CASE REPORT

T.K., a boy aged 19, student of senior high school, was admitted to our clinic on Nov. 4, 1952 complaining of severe headaches, visual disturbance and epileptic seizures. Since May 1952 he had suffered from general malaise and cold sweats. On June 30 a convulsive seizure occurred for the first time. Early in July 1952 he began to complain of headaches and a feeling of heaviness in his head. He said that he felt as if he had a ball inside his cranium and that the location of his headaches changed as he changed the position of his head. His symptoms progressed and he complained of dizziness, nausea, vomiting and sleeplessness since the middle of August and of visual disturbance since the beginning of September. He had noticed a slight defect in speech (stammer) since the middle of October. On October 22 he had his second convulsive seizure, beginning with his right hand and spreading to his whole body, with loss of consciousness and with his face rotated to his right side. For several days before admission he had complained of tinnitus and of something fluttering in front of his eyes.

Past History. He was born and has lived in Kyushu Island, Japan (near the endemic area of schistosomiasis), except between the ages of 5 to 11 years when he resided in Mukuden, Manchuria.

He suffered from dysentery at 4 years of age. He was told that his liver was enlarged at the age of 14. However, he has had no other symptoms that occur in schistosomiasis.

Examination. Papilledema was present and visual acuity bilaterally was limited to perception of hand movements. "Knock-pain" and Macawen's sign were present in the left parietotemporal region. There was hypoesthesia with slight weakness and increased tendon reflexes of the left hand and leg. He had great difficulty in writing and frequently wrote the wrong letters. He also showed slight astereognosis.

Laboratory Findings. The hemogram showed 5,210,000 RBC, 81 per cent hb. and 6,000 WBC with 58 per cent neutrophiles, of which 54 per cent were segmented, 82 per cent lymphocytes, 4 per cent monocytes and 6 per cent eosinophiles. The urine was normal. The stools were brown, formed, and were positive for ova of Ascaris but negative for ova of Schistosoma japonicum (in spite of several examinations of the stools after verification of the diagnosis). They were also negative for occult blood. BP was 108–70 mm. of mercury. Sedimentation rate of blood was 47 mm. for 1 hour, and 88 mm. for 2 hours. Syphilitic reaction of serum was negative. Circulating blood volume was 6375 cc. (115.8 cc./kg.); circulating plasma volume,
3187 cc. (57.8 cc./kg.); protein contents in serum 8.7 gm./deciliter; and value of hematocrit 50 per cent.

The CSF pressure was 850 mm. of water. The fluid was grossly clear, and showed the following syphilitic reactions: Nonne-Apelt 3+, Weichbrodt 3+, Wassermann 2+, and mastic test showed the curve of progressive paralysis (Fig. 1).

EEG revealed irregular waves over the whole scalp, most marked in the left parietal region. Pneumoencephalogram showed that the lateral ventricles were shifted markedly from left to right. There was depression of both the frontal and occipital poles of the left lateral ventricle (Figs. 2 and 3).

A diagnosis of left parietotemporal tumor was made.

Operation. On Nov. 18, 1952, osteoplastic craniotomy was carried out. The dura mater was very tense but was found neither thickened nor adherent on incision. Two grayish-white firm tumor masses, the size of a sparrow's egg, underlying the left parietal cortex were