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TWO CASES OF TUMOR OF THE CEREBELLUM.

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IN calling attention to these cases, I do not do so with the idea of announcing anything novel or of bringing forward something new as to the localization or the pathology of the disease, but only because I believe that all such cases ought to be recorded, especially when autopsies have been made and the diagnoses verified.

The first case was under my observation from the commencement of the patient's illness and closely followed to the end. The second case I saw only two days before death.

CASE I.—Sarah D—, aged ten years. Seen in consultation with Dr. Z. S. Webb on February 19, 1888.

Parents healthy; no family history of cancer or tuberculous disease. The child had not had any previous serious illness. When three years old she fell down a flight of steps, striking her head upon the stone walk. The fall could not have been a serious one, as the parents did not recall the accident until after her death, though questioned carefully before as to traumatism.

About November 1, 1887, the parents noticed that she was losing flesh and becoming very pale.

Ten days later she came in one afternoon, complaining of chilliness and headache, followed by vomiting without any nausea. She slept well that night and seemed perfectly well the next day. On November 15th and 20th she had similar attacks of headache and vomiting. Each attack seemed more severe, and the recovery not so complete. She was also becoming very irritable—did not wish to play, talk, or be disturbed. A little later the father thought she carried her head as though the neck was a little stiff.

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From January 15, 1888, the child commenced complaining of pain in the back part of the head and neck, principally in the morning before getting up, but always wanted to be dressed and go down-stairs to her meals. She now spent most of the time in her mother's lap. The parents had not noticed any staggering in her gait, nor did she at any time complain of dizziness.

Examination (February 19, 1888).—Child dressed and sitting in mother's lap; head bound with cold compresses. She is dull, listless, complains of severe head pain, and does not like to be disturbed; is too weak and miserable to get down and walk. Speech normal; tongue straight; no tremors; vision seems normal to finger-test; pupils dilated; no reaction to light. There is a slight paresis of right external rectus; no nystagmus; no changes in the fundus. Grasp of hands fair; no paresis of face or limbs; knee-jerks absent; no anæsthesia. There is marked sensitiveness to touch all over head, and especially on back of neck, just below occiput. The posterior cervical glands are quite large. Temperature in axilla $101\frac{3}{8}^{\circ}$; pulse 100, irregular.

Diagnosis.—"Tubercular meningitis."

Tumor of the cerebellum was considered; but the absence of optic-nerve changes and the presence of an elevated temperature with an irregular pulse led me to give the former opinion. Besides, many of the facts in the previous history of the case I was not able to obtain until later, especially as to the vomiting.

Patient was ordered ten grains of the iodide of potassium in milk every four hours, this dose to be increased five grains each day.

February 24th.—General conditions worse. Pains in head still present; vision same; pupils not so large and react to light. Paresis of external rectus has disappeared. Temperature 100° ; pulse 120; respiration 18. Ophthalmoscope showed beginning optic neuritis; vessels small and indistinct. Is taking to-day thirty-five grains of potassium iodide every three hours in milk. Vomited after second dose. To take grains twenty as before.

March 5th.—First well-marked convulsion occurred, which was followed by many others, five or six during the day. These consisted of tonic spasm of limbs, drawing up of right side of lip and ala of nose; left eye wide open and right eye tightly closed. Low moans and sometimes a loud scream would accompany these attacks. Father states that on two occasions only was consciousness entirely lost.

The symptoms certainly point to an intracranial growth, and are probably due to a cerebellar lesion.

March 9th.—Very much prostrated; vomits the iodide, which had been reduced to ten grains every three hours. Temperature 100°; pulse 118, thready and irregular. Stimulants given as necessary, and patient ordered syr. ferri iodide, twenty drops three times a day; also inunctions of cod-liver oil.

March 10th to 20th.—There is a slight improvement. Vomiting ceased; appetite is good; patient swallows her food easily. Convulsive seizures less frequent and less severe. She passes her urine involuntarily, and the act is generally accompanied by a seizure, as before described.

Examination of Urine.—1018, alkaline. Traces of albumen; no sugar or casts. The abdomen, which had been sunken in, rounded out; and the whole body seemed to flesh up once more. She is still very irritable; repeats the words of others and any sounds she hears outside; also uses strong language, quite often saying "devil," and even worse. The use of these expressions quite surprise and shock the parents, who cannot imagine where the child could have heard them.

March 25th.—The only new symptom is dimness of vision; does not distinguish objects beyond four feet. Ophthalmoscopic examination shows advanced atrophy of both optic nerves.

July 1st.—Child is entirely blind; lies most of the time in a semi-comatose state; occasionally attacks of petit-mal. There is now paralysis of right side of face, partial paraplegia and paresis of left arm. The following bulbar symptoms have also appeared: Dullness, impaired articulation, difficult deglutition, and polyuria.

August 1st.—Emaciated to an extreme degree; cannot swallow; is fed with a tube. Left arm and both legs contracted and rigid. There has been a gradual enlargement of head, and there is now some separation of coronal and sagittal sutures. Slight exophthalmus present. Patient died on August 17, 1888.

Autopsy on August 18th, nine hours after death, the head only being examined.

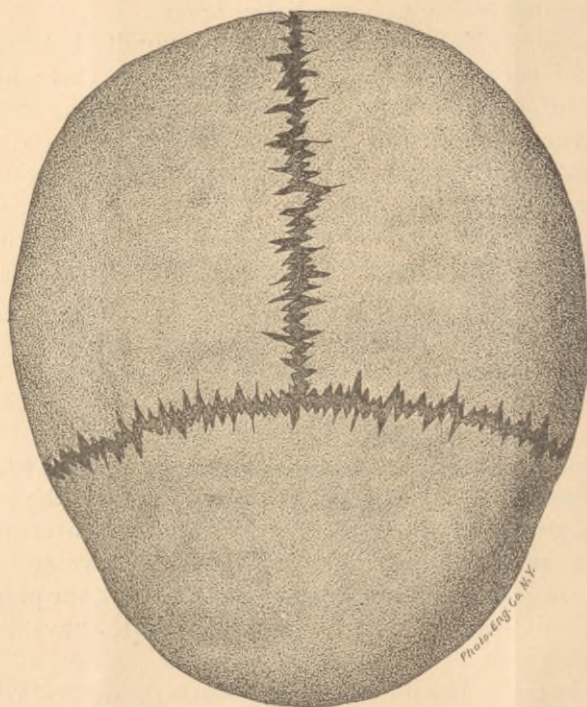


FIG I.—Degree of Separation of the Sutures.

The whole head was very much enlarged, the frontal and parietal bones being very thin and separated at the sutures to a marked degree (Fig. I.). The dura mater was very thick and distended. On puncturing this, a large amount of clear fluid gushed out. The convolutions were flattened and whole brain was pale, flabby, and softened. The lateral ventricles were very much dilated and contained a large amount

of fluid. The medulla was flattened, compressed, and softened.

Base of Brain.—Olfactory bulbs normal. Optic nerves small. Other nerves not examined.

Cerebellum (Fig. II.).—Placed directly between the lateral lobes of the cerebellum is a large nodular growth, three inches long, one and one-quarter inches wide, and one and

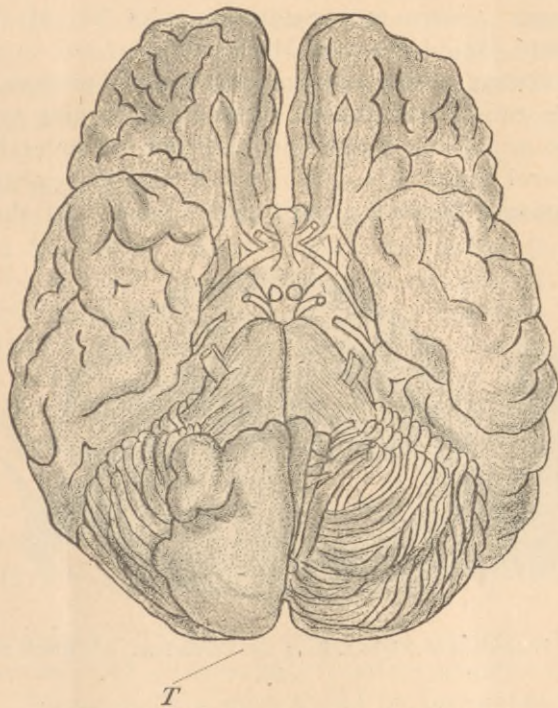


FIG. II.—Base of Brain. *T* points to Tumor in Situ.

one-quarter inches in its vertical diameter. It extends into and is attached to the right lobe of the cerebellum, occupying quite an extensive hollowed-out space in this lobe (Fig. III.). The growth also extended into the fourth ventricle, pushed the medulla to the left, and pressed on the right crus of the cerebellum.

Dr. Frank Ferguson makes the following report of the microscopical appearances of the tumor :

"The tumor is nodular in outline, in places cystic. Examination shows a large number of spindle-cells, medium in size, imbedded in an abundant granular and fibrillated stroma with a rich vascular supply. The walls, being composed of embryonic tissue, are quite thick, and give the tumor the appearance of angio-sarcoma."

CASE II.—James S., aged thirty-five years; married; bookkeeper. Seen in consultation with Dr. M. Tygert, Rutherford, New Jersey, on March 20, 1890.

Has always been much occupied by his business, giving but little time to recreation, often not returning until late at night and then continuing his work for several hours. His general health was always good, with the exception of an occasional headache, until last August. At that time



FIG. III.—Depression of Right Lobe of the Cerebellum, into which the Tumor fitted.

he commenced to complain of pain and discomfort in the back part of the head and neck; was more irritable and could not apply himself as formerly without causing fatigue and increasing the distress in his head. The pain seemed more severe on rising. Later in the same month he had a fainting attack, as he was about to go up-stairs. His wife states that there were no convulsive movements, no nausea or vomiting. His extremities were cold and lips blue. He recovered from this attack in a few minutes; was assisted

to bed, passed a comfortable night and seemed well the following day. No staggering in gait noticed at this time.

During the summer and fall the pain in occiput became more constant and troublesome, though not preventing his attending to business, which necessitated a daily ride of twenty miles on the cars. There gradually developed an uncertainty in his gait, a sort of swaying and a tendency to fall to the left or forward. He commenced to lose flesh and strength. The head pain became more acute, and finally, four weeks ago, he was obliged to take to his bed. Occasionally he would get up and go to the bathroom adjoining, and it was noticed that he would stagger and would have to keep hold of the furniture, etc., to prevent himself from falling.

For the last three weeks there has been present almost constant hiccough, with collections of mucus in throat. Lately he has had some difficulty in swallowing, and at times his speech has not been distinct. Ten days ago he complained of food collecting between his cheek and sides of teeth on left side. Memory has been good. No trouble with vision. No dyspepsia. Bladder functions normal. Bowels regular.

There was no specific history. Has had two children, both healthy. Wife one miscarriage. No family history of consumption or cancer. Mother still living. Father died of paralysis.

Examination.—Patient in bed, lying on left side, body bent forward and downward. Answers questions intelligently. Occasionally a word would be pronounced rather thick and indistinct. Voice fairly strong. Lies motionless and does not like to be disturbed. Complains of severe pain over occiput and back of neck. Over the second and third cervical vertebræ there is a large denuded surface, the result of cantharides which had been applied for the relief of pain. Glands of neck quite prominent. There is no tenderness to pressure on any part of head. Muscular system not well developed. Muscles of extremities flabby. Tongue deviates slightly to the right. Not tremulous. No

anæsthesia of face. Slight loss of sensation over tips of fingers of left hand. There is a marked paresis of lower facial muscles of left side, also of left arm and hand. Raises hand to face slowly, with difficulty, and in doing this shows pronounced ataxia. No paralysis of the ocular muscles. Left pupil larger than right, reaction to light not as good. Opens and closes both eyes equally well. Nystagmus in a lateral direction is present to a marked degree, Ophthalmoscope examination reveals neuro-retinitis in both eyes. Grasp, R. 20—19; L. 5, 4. Muscular sense is poor in left hand; cannot recognize a coin, knife or key. No paralysis in lower extremities. Movements good in all directions. Knee-jerks absent. No clonus. Pulse 60. No cardiac murmur.

Diagnosis.—Briefly the symptoms were as follows:

Severe pain over the occiput and back of neck. An uncertain gait; staggering, with a tendency to fall to the left. Hiccough, dysphagia, salivation. Paralysis of face and arm on left side, with ataxia and loss of muscular sense. Double optic neuritis and nystagmus. From the history of the case and the symptoms already enumerated, the diagnosis was made of "tumor of the cerebellum, involving the middle lobe."

March 21.—About 8 P. M., patient insisted upon rising up in bed and his wife assisted him. He no sooner assumed the upright position than he became very pale and died.

March 24.—Autopsy held fifty-six hours after death in the presence of Drs. Tygert and Phelps. Head only examined. Rigor mortis well marked. Nothing abnormal noticed about the external surface of head. No blood escaped on removing the calvarium. Bones of skull normal. Depressions of the pacchionian bodies quite deep. With the exception of a few slight adhesions along the longitudinal sinus the dura mater was normal. The subarachnoid fluid was increased in amount especially at base. No decided flattening of convolutions. Whole brain pale and soft. Vessels of pia mater quite prominent. Cortex and ganglia at the base of brain appear normal except for prominence of puncta vasculosa.

Cerebellum.—On the under surface of the left lobe of the cerebellum (Fig. IV.), occupying its inner third, extending over median line, pressing upon the medulla, fourth ventricle, vermis and spinal cord, is a tumor four inches long, three and a quarter inches wide and two and three-quarter inches in its vertical diameter. The tumor is irregular in outline, broken down in places and encroaches upon the ninth, tenth and twelfth nerves of left side.

Microscopically the tumor consists of a multitude of small round cells, in places showing myxomatous degeneration. Blood-vessels quite abundant here and there in the sections; deposits of blood pigment were present.

Remarks.—The sudden death in this case was probably

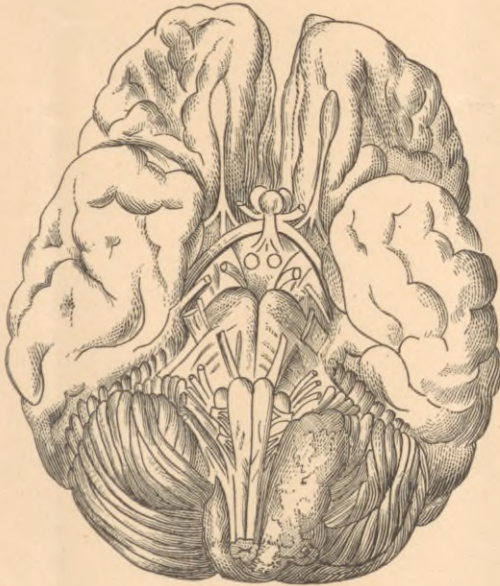


FIG. IV.

due to paralysis of heart and respiration caused by pressure on the pneumogastric.

From the situation and size of the growth it is interesting to note the absence of vomiting, any great excess of fluid in the ventricles, and convulsive seizures.

