ALVEOLAR SARCOMA OF THE RIGHT MIDDLE FOSSA OF THE SKULL.*

BY MORRIS J. LEWIS, M.D.

F. H., female, æt. 11 years, was brought to the dispensary of the Orthopedic Hospital and Infirmary for Nervous Diseases by her mother, for right facial palsy, on January 11th, 1899, and gave the following history:

Father died at the age of 35 of left hemiplegia.

Mother living and in good health at the age of 36. Three brothers living and well.

Previous History:—Ordinary diseases of childhood. Diphtheria in 1896.

Present History:—In the latter part of August, 1898, patient had a right lower molar tooth extracted for decay, considerable pain followed this, and very shortly afterward she began to have right-sided earache. There was no discharge from the ear at any time, but in three weeks after the extraction of the tooth, paralysis of the right side of the face gradually made its appearance, and steadily increased until it became total.

About December 4, 1898, symptoms of irritation of the right eye made their appearance, and subsequently a small ulcer developed on the cornea.

When the child applied for treatment the face was completely paralyzed upon the right side, and strongly drawn to the left, the child being utterly unable to close the right eye, which was very much injected and prominent, probably from relaxation of the eye muscles. The cornea was the seat of a small ulcer.

The tongue was thrust to the left, the uvula projected to the right, and the child was unable to chew upon the right side of the mouth. The sense of taste was less acute upon the right side of the tongue than upon the left, particularly on the anterior and middle third. The left tonsil was considerably enlarged.

There was, and had been for some time, pain in the right mastoid and temporo-parietal regions, particularly towards night.

The child was perfectly bright and answered all questions intelligently, and showed no signs of paralysis other than those mentioned.

*Read at the twenty-fifth annual meeting of the American Neurological Association, June 14 and 15, 1899.

Electrical examination made at the time of application, by Dr. Rhein, revealed as follows:

Right side of face,	6 ma.	A.C.C. > C.C.C.
Left side of face,	2 ma.	C.C.C. > A.C.C.

No transmission down the nerve to galvanism or faradism, and no response whatever on the right side of the face to faradism.

Fig. I. The diagram shows impaired sensibility extending over right side of face, with complete anesthesia above and below eye, and including the eye. *a* = impaired sensibility; *b* = total anesthesia.

Examination of the ears by Dr. Randall revealed: "Evidences of past suppuration, a depressed adherent scar of the right membrana tympani, with preponderant bone conduction, which is slightly exaggerated. But little congestion and no evidences of carious troubles, past or present."

The child was placed upon iodide and bichloride of mercury, with bromide of sodium at night for sleeplessness.

January 27, 1899. Dr. A. Thomson reported the following condition of the eyes:

"The right eye little better than it has been. Ulcer healing a trifle more, however. The cornea is completely vascular, with large shallow ulcer with infiltration of lower layers. Com-

plete anesthesia of cornea and of every part supplied by the fifth nerve. There is also marked involvement of muscles supplied by the third nerve, however, not complete. Has been using mydriatic, so dilatation of pupil cannot be relied upon. Internus affected most.

"O. S. pupil reacts normally, media clear. The disc swelled about 1 D., the margin cloudy and veins tortuous. Marked evidences of starting neuritis. No hemorrhages. No hemianopsia. Muscles all right in this eye."

Fig. II. The diagram shows the condition of sensation in the tongue, Jan. 28, 1899. *a* = complete anesthesia; *bb* = impaired sensibility; *c* = normal sensibility.

Fig. III. The diagram shows the condition of taste in the tongue, Jan. 28, 1899. *a* = absence of taste; *b* = impaired taste; *cc* = normal taste.

January 27, 1899. Admitted to hospital, where the following notes were taken: Absolutely no evidences of paralysis, either of motion or of sensation in the extremities or trunk. Grip good, the right hand showing 25 and the left 22 on the dynamometer. Knee-jerks and elbow-jerks normal. Impaired sensibility of the whole right side of the face and of scalp to vertex, with complete anesthesia above and below the eye, and including the latter. Excessively tender spot in the deep layer of the upper lip upon the right side. Teeth of the upper and lower jaws do not meet evenly in the middle line, the

lower jaw being thrust to one side. The tongue is protruded towards the paralyzed side, being thrust over in its entirety. Slight edema of the scalp and forehead exists. The right eye is much worse, right internal rectus decidedly weak.

She was ordered iodide of potash in increasing doses, with inunctions of mercurial ointment. The eye was washed frequently with boric acid.

January 28th, 1899. Examination of the tongue showed complete anesthesia of the right side, except the tip and a small area towards the root, where the sensation was impaired, while in regard to taste there was complete absence on the right side except a small portion at the tip where it was impaired. (See diagram.) Marked tenderness exists to-day over the whole mastoid area.

February 1, 1899.—Patient much brighter. A second examination by Dr. Thompson reveals: "O. D. better. Cornea very much vascularized, but not so much discharge. O. S. pupil reacting normally (no Wernicke's sign). The disc seems a little more swollen, about 3 D. at summit now. Has had some subjective sensations on right side of face."

February 2, 1899.—This afternoon, after having been apparently as well as usual and conversing rationally with her mother, she gave a shriek, put her hand to her head over the right occipital region, and complained of great pain. No convulsion occurred, but for the most of the afternoon she uttered a typical meningitic shriek, and had some retraction of the head, and talked irrationally. The next morning she awoke fairly comfortable with no retraction of the head or headache, and talked rationally, the events of the night before being a total blank. In the evening the symptoms of the night before were repeated.

For the next ten days the patient had alternate periods of rest and pain, but her vision gradually grew worse, and she had great difficulty in distinguishing objects or telling the time by the watch. Her speech also became drawling.

From the 12th to the 17th she was bright again, and had no pain. Her speech became less drawling than before, but this drawling appears to be partly natural.

On the 17th she had intense burning pain on the right side of the face, although the paralysis did not appear to be as marked as before. This last symptom was noticed even by the brother.

On the 20th the hearing was much worse, and there was marked paralysis of the right external rectus muscle. Slight nystagmus was noticed for the first time. Hard tapping over

the right temporal region caused no pain whatever, although a short time later this procedure did cause pain.

On the 24th Dr. Thomson reports: "Choked disc of the left

IV.—Photograph of the brain with the tumor in position.

eye very greatly increased and pupil greatly contracted." She died in the evening of that day.

This case is particularly interesting on account of the pe-

cular grouping of the symptoms. It will be seen by studying the report of the case that the second, third, fifth, sixth, seventh, eighth and ninth nerves were all more or less involved upon the right side, while there was absolutely no discoverable involve-

Fig. V.—Photograph of the brain after the tumor had been removed.

ment of any other portion of the nervous system. The tentative diagnosis of tumor of the right middle fossa of the skull was made and the autopsy proved this to be correct. My col-

league, Dr. Chas. W. Burr, made the autopsy, the report of which is as follows:

POST-MORTEM EXAMINATION BY DR. CHAS. W. BURR.

The necropsy was made some hours after death. The brain alone was examined. The scalp and calvarium were normal. On opening the skull the dura bulged a great deal. The longitudinal sinus was empty. The pia was dry and the convolutions on both sides much flattened and pale. The right middle fossa was filled by an irregularly globular mass, or rather by two fused into one, the larger being below the plane of the dura, the smaller above. The mass was two and a quarter inches in height, two and a half inches in width, and two and a half inches in length in its largest diameters. The upper surface of the mass had caused a depression in the basal surface of the right temporo-sphenoidal lobe, about one inch deep and one and a half inches wide. This surface was smooth, covered with pia, and had pushed the brain substance upward in front of it. The mass was shelled out from the brain easily. The under, larger part of the mass had eroded, and, indeed, invaded, the floor of the middle fossa, was firmly attached to it, and appeared in the roof of the pharynx on the right side. The dura surrounded the circumference of the mass between the larger and the smaller parts, and penetrated it a short distance. On section the mass was hard, firm and smooth. There were two areas within it about half an inch square, which were translucent and glassy in appearance. Microscopic examination proved the mass to be an alveolar sarcoma, probably arising in the dura. There was some, but not very much, hydrops of the ventricles.

221. DEMONSTRATION OF PRIMITIVE FIBRILLÆ. A. Bethe. (*Arch. f. mikroskopische Anatomie*, 54, 1899, p. 141).

In an exhaustive article on the characters of the primitive fibrillæ in nerve fibers, Bethe gives a series of micro-technical methods for staining the same. He employs osmic acid as a fixative, using small strands of nerve tissue, for about twenty-four hours. These are then washed 4-6 hours and then placed in 90 per cent. alcohol ten hours. Water four hours, and then transfer to a 2 per cent. solution of sodium bisulphate to every ten drops, of which 3-4 drops of concentrated hydrochloric acid has been added, for 6-12 hours. Specimens then can be washed, run up in alcohol and oil to paraffine, embedded and cut very thin. Fastened to slide by an albumin fixative and stained as follows: One-tenth of 1 per cent. warm, 50-60 C., toluiden blue for ten minutes, wash, and fix for a minute in a 1 per cent. solution of ammonium molybdate. Mount in balsam.

JELLIFFE.