THIRTY-ONE-YEAR CURE FOLLOWING REMOVAL OF INTRAMEDULLARY GLIOMA OF CERVICAL PORTION OF SPINAL CORD

REPORT OF CASE

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Primary oligodendrogliomas of the spinal cord are rare intramedullary tumors associated with a poor prognosis because complete surgical eradication is usually impossible. A review of all cases in which patients were treated at the Mayo Clinic for primary oligodendrogliomas is the subject of a separate presentation; however, the unusually long follow-up in 1 case seemed to warrant discussion in more detail.

REPORT OF CASE

A white farmer, 36 years of age, came to the Mayo Clinic in April, 1931, complaining of paresthesia of the left thumb and index finger which, he stated, had been present for approximately 9 months. Pain in the left shoulder and in the upper portion of the left arm began soon after the onset of paresthesia. The pain often awakened the patient at night and he was relieved by getting out of bed and walking around. Chiropractic and osteopathic treatments made the pain worse, and he had been unable to work for about 8 months. For 5 months he had been aware of fibrillations of the left biceps muscle while at rest, although no weakness or atrophy had been noted.

Neurological examination revealed normal strength of muscles but the left biceps reflex was reduced to 2-3.

On April 29, 1931, laminectomy was performed from the 3rd to the 7th cervical laminae. A dorsal slit in the cord revealed a brownish-red tumor opposite the 4th and 5th cervical pedicles. Approximately 5 ml. of yellow fluid were removed from above and below the tumor, and the tumor, which seemed encapsulated and measured 3 by 2 by 1 cm., was gently removed in toto.

The original pathologic impression was “malignant encapsulated hemangio-endothelioma” but was later corrected to “oligodendroglioma.”

The tumor consisted of a moderately pleomorphic highly cellular neoplasm. The predominant cell had a distinct sharply defined cell membrane, clear unstained cytoplasm without processes, and a centrally placed round, rarely oval, pale or dark nucleus (Figs. 1 and 2). The size of both cell and nucleus varied moderately, though the majority of the cells were monotonously uniform. Moderate-sized vessels and connective tissue divided the tumor into large groups or clumps of cells, the cells in each clump being fairly uniform. There was little astrocytic proliferation. No mitotic figures were noted. The diagnosis was oligodendroglioma.

The patient’s postoperative course was rather stormy with severe pain in the left arm, weakness (−3) and anesthesia (−2, 3) of the left arm, and weakness and ataxia of the lower extremities with hyperreflexia and Babinski’s reflex on the left. Fecal and urinary incontinence persisted for a week after the operation.

In October, 1933, the patient returned for re-examination. He had shown steady improvement since his operation. The left arm was slightly weak, and numbness and paresthesia persisted over the left index finger and thumb. He was able to work steadily, but the left foot tended to drop when he walked.

The patient was not seen again at the clinic until February, 1962, when he returned complaining of pain in the back and left leg. In December, 1961, he had been shelling corn and had scooped corn while in a stooped position. He had lifted a 100-pound plank and had not felt well afterward. After working a day in the rain, a cold had developed and he had noted that coughing and sneezing caused pain in the lower left portion of his back. The pain had extended into the left buttock when he was working or walking. Rest relieved the pain, which was severest when he arose from a sitting position. Early in January the pain had begun to progress down the left thigh to behind the left knee, and by early February, it was constant.

Neurological examination revealed weakness of the left peronei −2, gastrocnemius −1, and toe flexors −1. He had residual numbness of the left thumb and index finger. The neurological diagnosis was that of a lesion of the left 5th lumbar root. On Feb. 15, 1962, an air myelogram revealed a protruded 4th lumbar disk on the left. The value for protein in the cerebrospinal fluid was 51 mg. per 100 ml.

The next day a large protruding 4th lumbar disk was removed.

The patient was dismissed on the 9th postoperative day, having already obtained great relief.

COMMENT

In a study of 107 cases of intracranial oligodendrogliomas treated surgically, Earnest found the average survival of patients to be 4 years, which indicated that growth of these tumors is not so rapid as that of other gliomas. More than half of the tumors studied were in the frontal lobes and few involved the basal nuclei. The location of the tumors, therefore, is more favorable for life than is that of astrocytomas. Metastasis along the neural axis from primary intracranial oligodendrogliomas has been reported.
Bucy and Russell discussed a case of intramedullary thoracic oligodendroglioma in which the patient experienced onset of symptoms at 17 years of age. He underwent operation at 31 years of age. In a series of spinal-cord tumors associated with choking of the optic disks reported by Love et al., choked optic disks developed in 1 patient 5 years after operation for intramedullary oligodendroglioma in the lower thoracic part of the spinal cord.

In the present case of intramedullary oligodendroglioma of the cervical part of the spinal cord, no evidence of recurrence was found 31 years after surgical removal of the tumor. The neurological deficit produced by the surgical procedure, while persistent, did not disable the patient and he continued at his occupation as a farmer.

SUMMARY

In a case of intramedullary oligodendroglioma of the cervical portion of the spinal cord, no evi-