VERTEBRAL HEMANGIOMA WITH COMPRESSION OF SPINAL CORD

ERICH G. KRUEGER, M.D., GARRISON L. SOBEL, M.D., AND CHARLES WEINSTEIN, M.D.

Neurosurgical Section and Radiological Service, Bronx Veterans Administration Hospital, and Department of Neurosurgery, Columbia University, New York, New York

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In considering hemangiomas of the vertebral column one should, perhaps, make a distinction between the asymptomatic lesions that are encountered as incidental findings at autopsy and those that cause clinical symptoms. In several large autopsy series with a specific search directed to the spine, Schmorl and coworkers noted an incidence of 10–12 per cent. The majority of these lesions, however, had no clinical significance and were not demonstrable roentgenologically. Putschar questioned the nature of the asymptomatic lesions, stating that they represented, for the most part, mere focal areas of capillary angiectasis, rather than true hemangiomas. If the former were excluded, hemangiomas of bone in general would have to be regarded as a rather uncommon condition. Lichtenstein and also Jaffe held similar views.

Actually, Cocchi in 1953 was not able to find more than 140 case reports of hemangioma of bone in a review of the literature. Bell collected only 64 instances of vertebral hemangioma with associated dysfunction of the spinal cord. In a recent report, Robbins and Fountain described a case of cervical hemangioma with compression of the spinal cord and stressed the infrequent occurrence of these tumors in the cervical spine, of which they found only 10 examples.

In view of the rarity of compression myelitis caused by vertebral hemangioma and the importance of early recognition and adequate treatment in the prevention of permanent disability, it appears justifiable to report another case of recovery from compression of the spinal cord following laminectomy and roentgen therapy and to discuss the pathological, roentgenological, and clinical aspects of this condition.

It was felt that a comprehensive review of the subject might be timely with particular emphasis on the controversy concerning the best form of treatment, irradiation alone or the combined surgical and radiological method.

CASE REPORT

A 26-year-old college student was admitted to the Neurosurgical Section of the Bronx Veterans Administration Hospital on Dec. 2, 1957 with a diagnosis of spinal cord tumor. He had experienced sharp retrosternal pain 3½ months previously and, 2 weeks later, interscapular pain which radiated in a band-like fashion around the chest. Initially the latter pain occurred intermittently but soon became constant; it was aggravated by lying on his side or by flexion of the trunk, with relief of pain when in the supine position. Three months before admission he noted impaired coordination of his legs and he fell when attempting to run. The lack of coordination became worse progressively and he began to experience "electric shock"-like pain along the medial aspect of both thighs and calves which persisted. Function of bowel was normal but micturition became difficult in the 3 weeks before admission. In the last 2 weeks he noted loss of ejaculatory function although he still had normal erections.

Examination. The gait was spastic, "scissors-like" and unsteady, with the right knee held in extension. Hypalglesia and hypesthesis were present below the T4 segment bilaterally. Sense of position in the toes was impaired but more so on the left side. Vibratory sense was impaired in both feet, the knees and iliac crests. Heel-to-knee motion was impaired bilaterally but more so on the right. Romberg's test was positive. Tendon reflexes were hyperactive and equal in the lower extremities with positive Babinski's sign bilaterally.
profuse bleeding from these structures with each bite. In addition, abnormally large vessels were present in the paravertebral soft tissues feeding the abnormal bony structures, and very large epidural veins likewise caused profuse bleeding. Control of hemorrhage was an arduous task throughout the procedure.

Pathological Diagnosis. Cavernous hemangioma (Fig. 3).

Course. Radiotherapy with a tumor dose of 4000 r was administered. The patient recovered the function of his legs gradually while receiving physical therapy. During January 1958 he began to walk with assistance. Pain present previously in the area of the tumor on coughing or motion disappeared. By Feb. 23, 1958 the level of hypalgesia had descended to T7. After termination of roentgen-ray therapy in early March the patient walked better progressively with Canadian crutches and then with the help of a cane, although his gait remained slightly spastic and ataxic. On March 22, 1958 the sensory level was found at T10.

Following his discharge on April 11, 1958 the patient was re-examined at regular intervals, demonstrating a gradual disappearance of neuro-

Abdominal reflexes were absent. There was slight symmetrical weakness of the extensors of the toes bilaterally. Extensors of the knees were approximately 60 per cent of normal strength with the hamstring muscles rated as normal. There was tenderness to percussion over the 4th thoracic vertebra.

Roentgenograms revealed the characteristic alteration of the trabecular pattern of the body of T3 with vertical striations and also involvement of the adjacent facets and laminae, consistent with the diagnosis of hemangioma (Fig. 1). Lumbar puncture on Dec. 5, 1957 yielded clear colorless spinal fluid without cells; the spinal fluid protein measured 490 mg. per cent. Manometric studies revealed a partial block and subsequent Pantopaque myelography demonstrated a block at T4 (Fig. 2).

Operation. On the same day, decompressive laminectomy of T2 to T4 was performed and replacement of 1,500 cc. of blood was required during surgery. The laminae and spinous processes of T3 and of T4 appeared thickened and were riddled with large venous channels. There was