LYMPHOMA OF SPINAL NERVE ROOT

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(Received for publication August 6, 1958)

The central nervous system is not often involved by lymphomas. When this does occur, it is usually brought about by secondary invasion of the epidural space. According to Whisnant et al.6 such involvement takes place in 10 to 20 per cent of patients who have malignant lymphomas. Many cases have been reported since Murchison's original article appeared in 1870.4 Intradural invasion, however, appears to be even rarer, and cases of primary lymphomas of the central nervous system are extremely unusual.

This report is based on a case which seems to be one of malignant lymphoma originating in the central nervous system and involving a spinal nerve root. Search of the pertinent medical literature has failed to uncover any similar instance.

CASE REPORT

#58-5162. M.S., a 75-year-old white woman, was admitted to the University of Kansas Medical Center in April 1958, complaining of numbness and weakness of the right leg.

In July, 1957 the patient had noted numbness in the right great toe upon awakening one morning. The condition became slowly progressive and eventually affected the entire right leg to the level of the knee. The sensory loss was accompanied by increasing muscular weakness of the extremity, most notably a foot drop. The patient was also bothered by a burning sensation over the anterior aspect of the leg.

The patient had fallen in February 1958, after which she had constant pain and tenderness in the lower region of the back. The pain was aggravated by coughing, sneezing or straining. She said she had no symptoms referable to her other extremities. There had been no loss of weight, fever, or malaise.

For 2 years before her symptoms manifested themselves, and for some time thereafter, the patient had been living in Indonesia. She described the food as "poor" and lacking in vegetables. She had taken vitamin supplements regularly, however, and had felt well during this period.

Examination. The patient appeared well developed, well nourished, and not in severe distress. General physical findings were normal. There was some straightening of the normal lumbar curve associated with slight spasm of the paraspinal muscles on the right side. There was no vertebral tenderness. Range of motion of the spine was limited in all directions. She had considerable tenderness in the right gluteal area and over the course of the sciatic nerve. There was tenderness upon pressure over the right tibia. The skin of the right lower leg and ankle was smooth and glistening.

There was generalized weakness of the right lower extremity, especially of the dorsiflexors of the foot and toes. The patient's muscle tone was greatly reduced and she had a right foot drop. She was barely able to walk with the aid of a cane. Right patellar and ankle jerks were absent. The other tendon reflexes were slightly hyperactive. There were no pathological reflexes. Lasègue's sign was positive on the right side. Sensory abnormalities were also confined to the right leg: diminution of sensation to light touch and painful stimuli, decreased vibratory sense, and moderate hyperalgesia in the distributions of L5 and S1.
Superficial sensory losses were of the "stocking" type and extended from the knee downward. Position sense was intact. Skull was normal to auscultation and percussion. All the cranial nerves were intact. There were no cerebellar or meningeal signs. The patient's intellectual functions were not impaired.

Laboratory examinations, including hemogram, serology, fasting blood sugar, blood urea nitrogen, liver function tests, serum electrolytes, serum calcium, phosphorus and alkaline phosphatase, all gave findings well within normal limits. The erythrocyte sedimentation rate was 5 mm. in 1 hour (Wintrobe). Serum protein electrophoretic pattern was normal. Examination of urine failed to reveal the presence of Bence-Jones protein. The cerebrospinal fluid obtained at the time of myelography was found to contain 131 red blood cells and 209 lymphocytes per c. mm., 41 mg. of protein per 100 ml. and 25 mg. of sugar per 100 ml. Serology was negative and colloidal gold curve was 0011100000. The electrocardiogram was reported as normal. The clinical diagnosis was neuropathy of the sciatic nerve on the right, possibly from multiple myeloma because of the severe pain in the bones.

Roentgenograms of the cervical, thoracic and lumbosacral spines showed only generalized decalcification. Films of the right lower extremity and chest were reported as normal. On the 5th hospital day myelography was performed. The subarachnoid space was well visualized from the caudal limits of the sac to the level of T10. A bizarre filling defect was noted on the right side at the level of the 4th lumbar interspace (Fig. 1). There was no block to the flow of Pantopaque. Interpretation of the unusual myelographic defect ranged from enlargement of the nerve root caused by inflammatory or neoplastic disease to displacement and deformity secondary to extrinsic pressure by herniated nucleus pulposus, extradural neoplasm such as metastatic carcinoma, or intradural neurofibroma. The cerebrospinal fluid findings of elevated count of cells and low sugar were in favor of the first diagnostic possibility. Surgical exploration was felt to be mandatory in view of the patient's progressive disabling disease and of the diagnostic dilemma.