Successful treatment of long-standing hysterical pain and visceral disturbances by unilateral anterior thalamotomy

Case report

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The relief of chronic pain and diarrhea by unilateral anterior thalamotomy is reported.

Case Report

A 37-year-old woman was admitted to the University of Mississippi Medical Center Hospital in April, 1971, complaining of headache, pain on the left side of the body, and diarrhea of several years' duration. The headaches, which had occurred since childhood about twice per week, were expanding in character, as if the head were being blown apart. They developed in the morning and evening with either a gradual or sudden onset and lasted 1 to 2 days. They had been considered migraine and had been treated with a variety of medications without relief. The pain had begun suddenly in 1963 in the upper back and left shoulder, and was so severe that hypodermic medication was required for relief; in subsequent years, it involved the entire left chest, back, and arm. By 1969, it had become persistently severe and radiated into the right side of the body, the lower back, and both legs. The patient also had episodes of swelling and pain in the knees and ankles, and began to think her condition was arthritic. Breathing deeply aggravated the pain, and elevating the left arm over the head relieved it. By 1966 the left half of the body felt "just as if one were to draw a line down the middle of my body." In 1964 temperature elevations to 102°F occurred over a period of 2 months. Infectious mononucleosis was suspected, but not proven. The etiology of the fever remained undiagnosed in spite of extensive diagnostic studies. Insomnia had been a problem since 1966; she believed this was because of pain and not anxiety or worry.

Vague gastrointestinal symptoms had
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existed for several years; these included dysphagia, anorexia, "heartburn," nausea, and vomiting. The symptoms were worse when lying down and better when sitting up. Diarrhea first developed in 1969 following intense administration of antibiotics for the treatment of pneumonia, and recurred 3 to 4 days each week. It began spontaneously and continued until nonproductive, often preceded by abdominal distention and cramps. She had been married at age 15, had one child, and adopted another. In 1950, a 7½-month pregnancy was terminated because of uremia and convulsions. Hysterectomy was performed in 1961.

Examination. The patient was cooperative, intelligent, and well oriented. Blood pressure ranged from 100/70 to 120/90. She appeared emotionally anxious, tense, and apprehensive. Neurological evaluation was within normal limits. Various portions of the left chest wall were tender; these included the left breast and axillary area, and was most marked in the left parascapular, lower cervical, upper thoracic, and lumbar regions. Dermatographia was demonstrable over the left chest, especially posteriorly. There was no swelling of the joints or limitation of movement.

The patient had extensive studies of the gastrointestinal tract, gallbladder, lungs, thyroid, and heart. Carotid arteriogram, myelogram, and pneumoecephalogram were all normal. The electroencephalogram revealed low voltage with a basically fast rhythm of 14 to 18 cps; fast sleep spindles of 18 cps were present and were slowed by olfactory stimulation.

Psychological tests included Wechsler Adult Intelligence Scale (WAIS), Bender Gestalt, Rorschach, Associate Learning Test, and Illusions such as Archimedes Spiral, Necker Cube, Coil, Massed Cube, and Phi Phenomenon. The scores for hysteria and hypochondriasis were in the pathological range of 93 and 89 respectively. The subtests for evaluating depression, psychopathic deviation, paranoia, psychasthenia, schizophrenia, hypomania, and social introversion were within the normal range. According to the "Behavior Evaluation Rating Scale," there was a score of 41% for patho-affect, 11% for hyperkinesia, and 5% for aggression. The I.Q. was 115. The results from the psychological tests were interpreted as revealing extreme anxiety, emotional lability, tension, and irritability. The overall psychiatric evaluation was a diagnosis of mixed psychoneurosis, anxiety, and depression.

Treatment. The patient had been on a variety of medications with no beneficial results. These included Anacin and Bufferin two or three times daily, hot baths, heating pad, and exercise; a bland diet and physiotherapy had no effect. Xylocaine blocks at various points of marked tenderness relieved the pain only temporarily. Following the first series of blocks, she slept from 10:00 p.m. until 6:00 a.m. the following morning without awakening for the first time in 5 years, but repeat blocks became ineffective.

Operation. A right anterior thalamotomy was performed on May 28, 1971. The electrode placement coordinates were Fa 4, H + 5, L 5.8. According to the atlas of Schaltenbrand and Bailey,2 the bipolar electrode tip was located predominantly in the ventralis anterior nucleus. It also affected the mammillothalamic tract, lamina medularis interna, reticular nucleus, and anterior medial nucleus of the thalamus. The bipolar electrode consisted of a tube with 3 mm bare at the tip and a central electrode with a 0.5 mm bare tip extending 1 mm beyond the end of the tube. The electrode was introduced through a frontal burr hole at approximately a 45° angle to the horizontal plane. During insertion into the thalamus, the patient experienced progressively decreasing pain in the left subcostal area. Bipolar electrical stimulation with a 12 V, 60 cps, and 1 msec pulse produced a tingling sensation across both legs at a point approximately 6 to 8 inches above the ankles, but did not involve the entire leg. There was no tingling elsewhere in the body. She also had a sensation of "floating away or passing out," and the room turning "completely blue." The sensations disappeared after the end of stimulation. A lesion was placed with a high frequency current passed through the 3 mm bare tube of the electrode. The lesion was estimated to be 3 to 4 mm in diameter and 5 to 6 mm in length. During application of the electrolytic current, the patient felt a grinding in her

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head similar to “filing the fingernails.”

Postoperative Course. The patient has gone 1½ years without recurrence of diarrhea or pain and requires no drugs. During the first postoperative month she returned to her job as a manager directing several workers. For the past 6 months she has been in business with her husband and is the office manager. The patient stated she feels better than ever before since the operation: “The best thing that happened was the relief from pain and anxiety; the operation was more of a miracle than anything else.” She eats whatever she desires and has had no gastrointestinal difficulty.

The preoperative pathological scores for hysteria and hypochondria, which were 93 and 89 respectively, underwent a postoperative improvement at 1 year with scores of 60 and 55 respectively. The “Behavior Evaluation Rating Scale” revealed a marked improvement for patho-affect with a change from a preoperative value of 41% to a postoperative value of 6% 1 year later. The category of “hyperkinesia” improved from 11% to zero and “aggression” remained unchanged at 5%.

Discussion

Spiegel and Wycis found that bilateral thalamotomy was necessary to relieve states of anxiety and tension in patients with nonschizophrenic psychiatric disorders. Furthermore, they recommended anterior thalamic lesions only if bacterial medial dorsal lesions were ineffective. In this respect the present case, which was successfully treated by a single unilateral lesion in the anterior thalamus, was unusual.

References


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