Trigeminal Neuralgia in a Patient with Multiple Sclerosis

An Autopsy Report

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Trigeminal neuralgia is said to occur more frequently in patients with multiple sclerosis than in the
general population.1,18 Müller,13 in a detailed
study of disseminated sclerosis, found that 2 per
cent of his group of patients with multiple sclero-
sis had trigeminal neuralgia and that the neuralgia
tended to appear at an earlier age in these patients
than in those with "genuine" or idiopathic tic
doloreux.

Lack of knowledge concerning the cause of both
trigeminal neuralgia and multiple sclerosis in-
creases the difficulty of drawing inferences as to
the relationship of the two diseases. Are sclerotic plaques involving the descending root of the 5th
nerve "the cause" of the neuralgia? Is a plaque on
the posterior root at the site of entrance of the
nerve to the pons the significant lesion? Is the
association of the two diseases a mere coincidence?

It might be hoped that postmortem examination
of patients afflicted with both diseases would
provide information to aid in answering some of
these questions. The 6 cases reported thus far
provide interesting clues, but the significance of
these cases is not clear and the facts presented in
them are subject to conflicting interpretations. If
additional information is to be gleaned from such
anatomic studies, the number reported must be
increased. We are reporting a 7th case and making
a brief comparison between it and the earlier cases
from the literature.

Case Report

A 58-year-old woman entered the Mayo Clinic on
September 3, 1958, complaining chiefly of right facial
pain of 2 years' duration. Her first neurological symp-
toms were noted in 1937, when she was 42 years old, in
the form of weakness of the left lower extremity. This
symptom disappeared after several months, and she
seemed well until 1948, when weakness of the left leg
recurred. In addition, she experienced a sensation of
unsteadiness while standing and a tendency to stagger
to either side while walking. These symptoms progressed
at a slow pace to the time of her visit to the clinic. She
had not experienced paresthesias in any part of the
body.

In the spring of 1951, at the age of 56 years, she had
first begun to suffer from episodes of severe, sharp,
shooting pains on the right side of the face. They began
in the right nasolabial fold and extended laterally about
2 inches. Less frequently, similar pain was felt in the
right lower gum. In each paroxysm the pain was sharp,
shooting and brief, lasting a minute or less. The bouts of
pain persisted for a few days to several weeks. The longest
period of freedom from pain had been 5 months. She
had not recognized any cutaneous trigger points but
knew that chewing, talking and similar activities often precipitated her pain.

The familial history and the patient's history contrib-
uted nothing significant concerning her condition at the
time she was examined.

Examination. During examination she often held her
hand over the right side of her face in a vain effort to
prevent the flashes of pain. The general physical exami-
nation revealed no abnormalities except those attrib-
uted to disease of the nervous system. Her gait was wide
based, spastic and ataxic. Lateral gazing to either side
produced nystagmus of the out-turning eye. The optic
disks were of normal color and there was no sheathing of
the retinal veins. The muscle-stretch reflexes were hy-
peractive and Babinski's sign was elicited bilaterally.
All extremities were spastic, somewhat more so in the
legs than in the arms. Coordination was moderately
impaired, as demonstrated by finger-to-nose and heel-to-
toe tests.

Routine laboratory tests revealed no remarkable
abnormalities. The total protein content of the cerebro-
spinal fluid was 65 mg.; sugar, 120 mg., and chlorides,
651 mg., per 100 ml. of fluid; 2 lymphocytes, 4 poly-
morphonuclear leukocytes and 250 erythrocytes were
found per cu. ml. of fluid. Roentgenograms of the head
revealed no significant abnormalities.

Operation. The severity of this patient's pain was such as
to require an attempt to relieve it by surgical opera-
tion. On September 7, 1958, with the patient under
general anesthesia, decompression of the posterior root
of the right trigeminal nerve was performed. During the
early postoperative period the patient was alert and free
of the tic pain previously present. At 5 p.m. on Septem-
ber 9, 1958, the patient suddenly lost consciousness and
suffered a convulsion. Clonic-tonic movements of the
left side of the body (face, arm and leg) were precipi-
tated, and the right arm and leg were drawn up in flex-
on. The patient remained unconscious after the seizure.
The surgical incision was reopened and an epidural
hematoma 2 to 3 cm. in diameter removed.

Recovery from this second operation was prompt, and
the patient was free of trigeminal pain. On September
16, 1958, in the late afternoon, severe pain developed in
the left side of the thorax. A short time later the blood
pressure began to decline, and despite the use of vaso-
pressor drugs the condition of the patient became worse,
respirations became irregular and she died 5 hours after
the onset of the thoracic pain.
Fig. 1. Brain stem sectioned at level of entrance of 5th cranial nerves, viewed caudally. Arrow indicates plaque at entrance of surgically sectioned right 5th nerve.

Fig. 2. Brain stem sectioned at level of entrance of the 5th cranial nerves. Arrow indicates notch made to identify the right side. Note plaque at entrance of the right 5th nerve (A). On the left is a plaque in the region of the descending tract of the 5th nerve (B). Luxol fast blue stain; ×2.