AN EVALUATION OF PALLIATIVE SURGICAL PROCEDURES IN TRIGEMINAL NEURALGIA

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It is generally understood that sensory root section by the temporal route is the operative procedure to give lasting relief from the pain of trigeminal neuralgia. Some writers, however, agree that there are indications for less radical or palliative procedures which must be considered in many instances. It is our purpose in this paper to give further consideration to the palliative procedures that are commonly employed: alcohol injection of branches of the trigeminal nerve; or avulsion of peripheral branches of the trigeminal nerve.

It is felt that standard text and reference books are negligent in not giving more discussion of the usefulness of palliative operative procedures, especially avulsions, for the relief of major trigeminal neuralgia. Some textbooks make no mention of the palliative procedures; others refer briefly to the use of a palliative procedure but discuss only alcohol injection. The popularity of alcohol injection is shown in the statement of Dandy: “Injections of alcohol have now almost superseded neurotomies. By either method the relief is only temporary, rarely being longer than 18 months and usually much less.” In the same reference work Peet stated: “Avulsion or section of the peripheral nerves is never indicated, with the possible exception of the supra-orbital, since alcohol injection gives relief of equal duration and leaves no disfiguring scar.”

Grant stated that he does not believe in avulsion of any of the peripheral branches of the 5th nerve other than the supra-orbital, since, in his opinion, injection of the 2nd and 3rd divisions produces a greater area of anesthesia. He does point out, however, that 4 or 5 years of relief may be obtained by supra-orbital avulsion.

Perhaps the foremost indication for a palliative procedure is an aged patient in a debilitated state in whom a craniotomy would be hazardous. A second indication for a palliative procedure is neuralgia confined to the 1st division of the trigeminal nerve, or pain from involvement of only the 1st and 2nd divisions of the trigeminal nerve. One hesitates particularly to produce a corneal anesthesia in the original operative procedure. It is not uncommon to hear the complaint of a patient that had he known what he was to experience in the way of facial anesthesia he would not have submitted to the surgery. This complaint is less apt to occur if a palliative procedure is first employed and followed by the permanent procedure when the pain recurs. Perhaps even more disturbing to the patient are the dysesthesias that occasionally occur. We have had patients with typical major trigeminal neuralgia due to multiple sclerosis. In such patients, a palliative
procedure, rather than a permanent division of the fibers of the 5th nerve, is indicated. Occasionally it is difficult or impossible to be certain whether a patient has one of the atypical facial neuralgias or tic douloureux. In such cases a palliative procedure may be indicated for obtaining a differential diagnosis and to prevent a permanent error. Finally, it is our experience that if patients are presented with the possibilities of the temporary and the permanent type of procedure and then given the opportunity to make their choice between the two, many will elect the palliative procedure for the original operation.

We disagree with Peet and Echols\textsuperscript{11} who stated, "A poor excuse for performing this procedure [temporary interruption of 5th nerve function] is that it will teach how anesthesia of the face feels. It is highly improbable that any patient suffering from severe trigeminal neuralgia ever refuses the intracranial operation because he did not like the anesthesia which a nerve injection temporarily produced." This is probably true, but it does not alter the fact that if the patient has the permanent operation originally, he may be unhappy about it. We, therefore, agree with Sachs\textsuperscript{12} who stated, "Following the radical operation, there is a permanent anesthesia which some patients find extremely annoying; following an alcohol injection there is the same type of anesthesia but it is transient, and when the nerve regenerates the anesthesia disappears. If the patient knows what the anesthesia following an alcohol injection feels like he subsequently accepts more willingly the permanent anesthesia which follows operation."

There seems no doubt that alcohol injection of the branches of the 5th nerve is the most widely used of palliative procedures in spite of the fact that it is a most trying ordeal for both the patient and the surgeon—one that many surgeons are anxious to avoid if possible. Many patients are unwilling to submit to a second injection because of the intense pain experienced in the correct placement of the needle at the original procedure. Another disadvantage of alcohol injection is that it is unsuccessful in a fairly high percentage of cases. Grant\textsuperscript{6} reported a successful block in approximately 80 per cent of the cases in his series. In addition, there is an occasional occurrence of an extra-ocular palsy or of a facial paralysis. We have seen a patient injected at another clinic in whom total blindness resulted from infiltration of the alcohol about the optic nerve. Sweet\textsuperscript{13} advocated the use of radiographic control for the placement of the needles for an alcohol block of the branches of the 2nd and 3rd divisions, and this undoubtedly is an advantage in obtaining a correct placement of needles and a higher percentage of effective blocks.

The relief of pain from a successful alcohol block generally lasts no longer than 6 to 18 months. The duration of relief in Grant's\textsuperscript{6} cases averaged 11 months for the 1st division, 14 months for the 2nd division and 16 months for the 3rd division. Horrax and Poppen\textsuperscript{9} had an average relief of 6 months for the supra- orbital, 12.4 months for the infra-orbital, 12.4 months for the maxillary and 14.3 months for the mandibular. Longer periods of relief