EXPERIENCES WITH UNILATERAL PREFRONTAL LOBOTOMIES FOR PAIN*

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In 1945 Freeman and Watts suggested the use of frontal lobotomy for the relief of intractable pain and the procedure has gradually achieved rather general recognition and use. Koskoff et al. in December 1947 reported on a limited experience with unilateral operation for the same purpose and recommended that it be tried, initially at least, in patients with advanced malignancy and poor physical condition. In March 1948 Scarff described his immediate results in 4 cases of unilateral lobotomy for pain. In all of these relief was obtained for the short period of the follow-up studies. The operation was effective whether carried out on the side of the pain or on the opposite side, and altered the mental status very little. Subsequently, Scarff reported upon a total of 10 cases with follow-ups from 6 weeks to 6 months after operation. In this group the results were good in 7. It was his impression that the poor results were obtained when the operation was carried out on the non-dominant hemisphere for contralateral pain or in those instances in which pain was due to involvement of the cranial nerves or the dura mater. On the basis of these encouraging reports unilateral leucotomy was carried out in 16 cases of intractable pain. This series forms the basis of the present paper.

SELECTION OF CASES

In selecting cases for this study, an effort was made to obtain patients in a wide age scale as well as patients with malignant and non-malignant lesions. Four cases are of interest in that they deal with pain involving cranial nerves. In 1 it was due to bilateral trigeminal neuralgia, and in the others it resulted from carcinoma involving the trigeminal and glossopharyngeal nerves on the left. Two paraplegic patients whose lesions were of the cauda equina suffered from severe radicular pain. One of these incurred his injury from multiple shrapnel wounds, and numerous metallic fragments, as well as extensive trauma to the upper lumbar vertebrae, could be demonstrated on x-ray (Fig. 1). Twelve patients in the series had advanced malignancy with metastases, and 1 patient suffered from pain secondary to severe spasticity of a congenital diplegia.

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Despite the poor general condition of several of these patients (two-thirds of the group suffered from advanced malignancy), operation was accompanied by very little shock with the single exception mentioned below, and supportive measures were not required. In 5 instances the procedure was carried out under local anesthesia.

The first patient in the group was operated upon in the sitting position with the thought of minimizing bleeding and cerebral edema. His condition was poor and he expired during operation, apparently as a result of cerebral anoxemia. All subsequent operations were done with the patient supine with the head slightly elevated. The superior approach was used with a scalp incision to expose the coronal suture 3 cm. lateral to the midline. A 1 3/4 inch trephine opening was made and after the reflection of a dural flap posteriorly the cortical vessels were coagulated. A cannula was passed to the lesser wing of the sphenoid bone to establish a track for the frontal lobe incision (Fig. 2). The plane of this incision thus extended from the coronal suture (usually about 13 cm. posterior to the glabella) to the posterior margin of the lesser wing of the sphenoid bone, in most cases just entering the tip of the lateral ventricle (Fig. 3). The cut was made under direct vision using a small suction tip and lighted retractor. Inferiorly and medially the incision reached the gray matter and it was carried laterally 4 to 5 cm. (Fig. 4).