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The Role of Percutaneous Cordotomy
in the Treatment of Chronic Cancer Pain

By

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With 3 Figures

Summary

The authors report on 53 cervical percutaneous cordotomies in 52 patients suffering from chronic unilateral cancer pain.

The evaluation of the results is based upon the patient's report of complete pain relief. Immediate and long term pain relief as well as complications and mortality rate are analysed. Excellent surgical results were obtained in 73% after one week and in 63% 15 weeks after operation. The topographical distribution of pain seems to influence the pain relief; the location of the cancer does influence the nature of the complications.

Furthermore, the occurrence of other pain syndromes, contralateral to or above the level of analgesia, is evaluated. This appears to be an important limitation of the usefulness of cordotomy.

Keywords: Cordotomy; cancer; pain.

Introduction

Spinothalamic cordotomy is one of the most satisfying operations for the treatment of chronic pain. Immediate pain relief appears to oscillate between 76.8 and 100% of cases. Long-term results are more controversial, but still satisfying, at least in some cases: in fact, the percentage of success reported at three months ranges between 60 and 85%.

The advantages of percutaneous technique over the open procedure are already described, and will not be discussed in this article.

Our main indication for percutaneous cordotomy is chronic unilateral cancer pain extending not higher than C5. Fifty-three uni-
lateral operations have been performed by us between July 1978 and September 1980. The results obtained are reviewed in relation to the pain distribution and to the location of malignancy. Furthermore, aside from the complications strictly dependent on the procedure we analyse as well the incidence of other problems basically related to the nature of the disease. Some of these problems are precipitated or facilitated by the cordotomy; others are independent from it, such as, for instance, the appearance of a new pain syndrome with a different distribution. All these problems reduce the usefulness of cordotomy, and must be taken into consideration when planning the treatment of pain in cancer patients.

Material and Method

Fifty-two out of 130 patients who came to our notice for the treatment of cancer pain between July 1978 and September 1980 were considered for percutaneous cordotomy. Twenty-four of them were female and 28 were male, ranging in age between 22 and 79 (mean 56).

Duration of pain varied from 1 to 36 months (mean 9.1). Fig. 1 shows the regional distribution of cancer and the location of pain. Fifty per cent of our patients had already received or were receiving Rx therapy to the lesion related to the pain. None of them underwent cordotomy before 15 days had elapsed from the beginning of Rx therapy. Pulmonary function was studied in the last six lung cancer patients, showing a PaO2 always above 65 mm Hg.

Most of the patients were discharged at the fourth postoperative day. Our mean follow-up is 11 weeks, the longest being 38 weeks. Seven patients were lost to follow-up. Sixteen out of the 45 patients with a complete follow-up are still alive.

Fifty-three operations were performed. The evaluation of the results has been based on the analysis of: 1. The pain control achieved immediately after the lesion, It was assessed according to the patient’s statements. Only complete pain relief was considered because of the difficulties in grading partial pain relief. 2. The pain control at a distance from the operation. It was based on patient report of a complete pain relief at 1–2–3–4–5–10–15 weeks. 3. The complications and the mortality. 4. The occurrence of other pain syndromes. 5. The pain distribution or cancer location, or both.

Remarks on the Technique

Mullan (1975) stressed the importance of a preoperative discussion with the patient in order to obtain his cooperation and to eliminate the need for preoperative medication. We strongly agree with him in this regard, and only in one case had we to interrupt the procedure because of lack of cooperation.

The patient is placed in the supine position with the head in the Rosomoff head-holder. The spinal canal is punctured at C1 C2 vertebral level by a lateral approach. We insert the spinal needle (16 Gauge) under fluoroscopic control: this is a very critical step in the procedure. A good placement of the spinal needle will avoid the need for repeated penetrations of the dura, which is the most painful part of the operation.

A few drops of an emulsion of Myodil and CSF (50/50) is introduced under fluoroscopic control to visualize the dentate ligament in the lateral view. If the spinal needle is aimed in a slightly ventro-dorsal direction and its tip lies