

Patient satisfaction with temporal lobectomy/selective amygdalohippocampectomy for temporal lobe epilepsy and its relationship with Engel classification and the side of lobectomy

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ABSTRACT

Purpose: The aim of this study was to investigate not only the effectiveness of epilepsy surgery in improving seizure control but also patient satisfaction with the result of the procedure in a sample of patients operated on at a specialized epilepsy unit.

Methods: Patients with temporal lobe epilepsy who had undergone epilepsy surgery (temporal lobectomy/amygdalohippocampectomy) were interviewed in a standardized telephone survey about their satisfaction with the results of the surgery. The morbidity of the surgery was also analyzed retrospectively. The initial study population consisted of 6 amygdalohippocampectomy and 102 temporal lobectomy patients and was reduced to a final sample consisting of 4 amygdalohippocampectomy and 67 lobectomy patients, as the other patients were not available for interview. Surgical results were based on the Engel classification, and satisfaction with the surgery was assessed by asking patients to rate their result and state whether they would make the same decision (to be operated on) again.

Results: A significant number of patients classified as Engel I or II, who considered the surgical outcome good or excellent, said they would have the surgery again ($p < 0.001$). Left temporal lobectomy patients whose results fell in the Engel III/IV bracket were less satisfied ($p = 0.001$) than right temporal lobectomy patients with the same Engel classifications (0.048). Left temporal lobectomy patients who were classified as Engel class III and IV were less likely to have the surgery again if they had the choice ($p = 0.016$).

Discussion: Patient satisfaction with the results of epilepsy surgery may depend not only on achieving seizure control but also on the temporal lobe resected. Since worse results were associated with lower satisfaction rates only for left temporal resection patients, it is possible that the cognitive consequences of this procedure compound the worse surgical result, leading to decreased satisfaction.

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1. Introduction

Epilepsy is a neurological condition that affects 0.5% to 1% of the population. Medical treatment is not always sufficient to control seizures, and approximately 30% of patients with epilepsy have seizures that fail to respond to this type of therapy [1].

It is well established in the literature that chronic treatment of epilepsy has a series of social and psychosocial implications that can adversely affect patients' quality of life [2]. The use of surgery to control seizures, however, has yielded satisfactory results, the commonest and

most widely studied epilepsy surgeries being standard temporal lobectomies and selective amygdalohippocampectomies [3].

Postsurgery quality of life is traditionally assessed using the Engel classification [4], which reflects the change in seizure frequency after surgery. However, in spite of the good results obtained with this type of therapy, little attention has been paid to patient satisfaction with clinical treatment and, more specifically, surgical treatment of epilepsy [5].

It is known that patients are not always satisfied with epilepsy surgery and that many factors are involved. These include surgical outcome, psychosocial function, ability to work, the presence of postsurgery neurological deficits, memory changes, presurgery expectations, and quality of life [6,7]. The absence of seizures and neurological deficits following surgery is the factor that has the greatest positive impact on patient satisfaction. In contrast, impaired memory,

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the presence of emotional disturbances, or further aggravation of these problems after surgical treatment can lead to worse subjective postoperative assessments [8]. The few studies that have investigated this aspect of epilepsy surgery show a positive correlation between the fulfillment of presurgery expectations and psychosocial function [9].

We investigated the relationship between patient satisfaction and Engel classification [10] following anterior temporal lobectomy.

2. Materials and methods

This study was retrospective, and patients were selected from a database of 135 patients who had undergone epilepsy surgery between January 1998 and December 2010 at the Curitiba Neurology Institute.

We assessed 108 patients who had had surgery for temporal lobe (TL) epilepsy. Of these, 48 had left TL epilepsy (LTLE) and 58 right TL epilepsy (RTLE). The different types of surgery carried out were as follows: 3 left temporal amygdalohippocampectomies, 3 right temporal amygdalohippocampectomies, 48 left temporal lobectomies, and 54 right temporal lobectomies.

Of the 108 patients who had had standard temporal lobectomies or selective amygdalohippocampectomies, 67 were successfully contacted by telephone in June 2011; of these, 34 had been operated on the right side and 33 on the left, and 37 were female and 30 male. Their ages varied from 19 to 67 years (Fig. 1).

Preoperative patient assessment included medical history and neurological examination by one of the neurologists; examination based on a standard EEG test; prolonged video-EEG monitoring to determine the epileptogenic zone and ictal semiology; neuropsychological assessment; and a brain MRI scan.

Depending on the etiology and location of the epileptic zone, a modified Wada test and/or functional MRI were used, as carried out in other centers [11].

Preoperative data were collected by retrospective analysis of medical records, and postoperative data on the effectiveness of the surgery and patient satisfaction were collected from telephone interviews.

Surgery was indicated if the epilepsy was refractory to medical treatment including at least two first-line and one second-line medication in the maximum recommended doses. All the patients were operated on by the same surgeon (MSM) and assessed by only two neurologists (PAK and REI).

The presence of postoperative complications was identified by asking patients whether they had been hospitalized because of the surgery in the 30 days following the procedure. During follow-up, patients were assigned an Engel classification according to whether they continued to have seizures or not and, if these were still present, seizure frequency and type. The results were then analyzed statistically to establish whether there was a correlation between surgical outcome and patient satisfaction.

Sixty-seven patients were contacted by phone in June 2011 (median follow-up time = 5 years, range: 1–13 years). They were asked the following questions: 1) How often do you have seizures?; 2) How long after epilepsy surgery did they start?; 3) In your opinion, did the seizure frequency decrease, increase, or remain the same after epilepsy surgery?; 4) In your opinion, how would you classify the outcome of your surgery: poor, fair, good, or excellent?; and 5) If you could go back in time and choose whether to have epilepsy surgery or not, would you have the surgery?

The results for the answers were recorded in tables and analyzed using various combinations. The statistical analysis was carried out with the Fisher and Mantel–Haenszel tests, and p-values of less than 0.05 were considered statistically significant. Statistica v.8.0 software was used to analyze the data.

3. Results

A significant number of patients classified as Engel I or II, who considered the surgical outcome excellent, said they would have the surgery again.

Table 1 shows the results of the study and the p-values for the statistical tests. Of the 67 patients who had a temporal lobectomy, 12 (17%) experienced some kind of complication (Table 2). The commonest complications were infection of the surgical wound (75%) and transient hemiparesis (16.6%). Only one of the patients who had complications required surgery. There was no correlation between the presence of complications and surgical outcome or dissatisfaction with the surgery, irrespective of the method used in the statistical analysis. Only four of the patients who had a right temporal lobectomy experienced complications (infection), and all four considered the surgical outcome to be excellent or good. Eight of the patients who had left temporal lobectomies experienced complications; these included infection (five patients), transient diplopia (one patient), and transitory hemiparesis (2 patients). Of the eight, only two considered the surgical outcome to be average or bad, while the other six considered it to be excellent or good.

4. Discussion

The aim of this study was to analyze patient assessment of the outcome of surgery for refractory epilepsy and to compare the findings for patients who had a left temporal lobectomy (LTL) and those who had a right temporal lobectomy (RTL).

To evaluate the degree of satisfaction, patients were asked to classify the surgical outcome as excellent, good, average, or bad and whether they would have the surgery again knowing the surgical outcome and what complications would arise.

Studies have shown that preoperative expectations about the benefits of surgery can influence patient assessment of the success or otherwise of

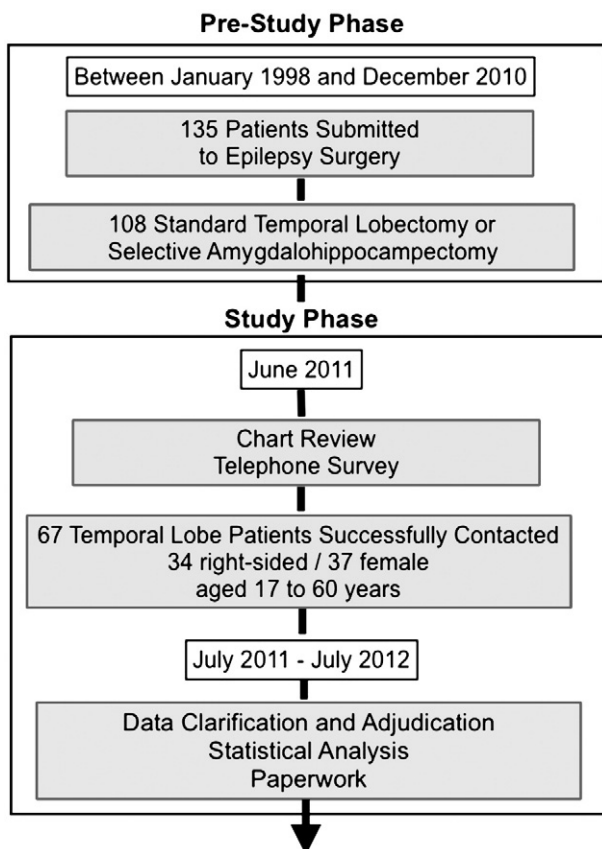


Fig. 1. Study flowchart.

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