



Emotional aspects of chronic orofacial pain and surgical treatment

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ABSTRACT

Objective: The aim of this pilot study was to investigate the psychological factors of chronic orofacial pain patients regarding hospitalization for surgical treatment.

Methods: We evaluated 30 patients (15 with temporomandibular disorder and 15 with trigeminal neuralgia) of three groups: 10 were hospitalized for surgery, 10 were newly diagnosed, and 10 had been clinically treated. Data were collected using a semi-structured interview and the Hospital Anxiety Depression Scale.

Results: Eighty percent reported lack of family support, 90% had important limitations in daily activities, and social aspects were the most affected (34%). Patients who were hospitalized for surgery had the highest degree of anxiety and expectation (90%; $p < 0.05$).

Conclusion: Surgery for chronic pain generates great expectations especially because it is considered a hope of cure. Clinically treated patients also might understand the factors associated to surgery choices and participate at the process of choosing. In general, chronic treatment for facial pain needs psychological support to cope with it.

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1. Introduction

Pain is one of the main causes of physical, psychological and social distress, work resignation and retirement.¹ It is one of the most important reasons to search for medical assisting, and it is prevalent in 76–85% of patients.² When it is chronic, it is considered the own disease, causing intense suffering, anxiety and incapacitation.³ Inadequate emotional coping is frequent, and central and peripheral abnormalities are present in the nervous system due to neuroplasticity.⁴ Patients often need an interdisciplinary group including physicians, dentists and psychologists to achieve improvement and better quality of life.¹

Psychological processes and past experiences influence the pain perception and behavior.² Patients usually have anxious symptoms in the beginning, but often get depressed with time, and the treatment must include: pain control, improvement of quality of life and reconstruction of familiar relationships, which can help them end their chronic pain.⁵

Among orofacial pains, Trigeminal Neuralgia (TN) and Temporomandibular Disorder (TMD) represent the worst neuropathic facial pain and one of the commonest facial pains.^{6,7} TN is usually

treated with anticonvulsants,⁸ therefore around 75% of the patients need neurosurgery sometime along their history of the disease.^{6,9} Surgical procedures are divided in percutaneous and open surgeries, with a high rate of success.^{8,10} TMD is a general term for masticatory musculoskeletal pains with multiple etiology.¹¹ It is the main cause of chronic orofacial pain, and psychosocial, cognitive-behavioral and emotional factors are associated.¹² Treatment includes pharmacology, physiotherapy and surgery.^{13,14}

Although there are many studies about the psychosocial aspects of orofacial pain,¹² none had compared patients according to the duration of the disease or according to the indicated treatment. Thus, the aim of this study was to investigate these aspects in orofacial pain comparing patients newly diagnosed with patients who had been clinically treated and patients indicated for surgery as treatment.

2. Methods

Thirty patients of the Orofacial Pain Team of Dentistry Division and the Facial Pain Ambulatory of Neurology Division of a general hospital were evaluated; 15 had TN following the IASP criteria,¹⁵ and 15 had TMD (myofascial pain without mouth opening limitation and articular disc dislocation without reduction, for patients indicated for surgery), following the Research Diagnostic Criteria for TMD (RDC/TMD).^{16,17} The three randomized groups were:

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Identification: _____ ID: _____

Clinic: _____

Previous internment: Hospital das Clínicas (); other (). How many? _____.

Date: ____/____/____. Age: ____; Marriage state: ____; School graduation: ____;

Occupation: ____; Religion: ____; Salary: ____;

1. What are you being treated for here in this Clinic? _____
2. What do you think about your disease? (limitations, severity, expectation, worries, cure possibility etc) _____
3. Do you know the reason for your hospitalization? (only for hospitalized patients) _____
4. For you, what is the meaning of hospitalization for your life and your disease? (including fantasies, like worsening, cure) (only for hospitalized patients) _____
5. In your opinion, what are the positive and negative aspects about being hospitalized? (only for hospitalized patients) _____
6. At this moment are you receiving psychological support? For how long? _____

Comments: _____

Fig. 1. Semidirected interview.

Group I: 10 hospitalized patients for surgical treatment, 5 with TMD and 5 with TN; these patients were indicated for surgery because of high clinical limitations, or tolerance of anticonvulsants, for TN patients; the duration of hospitalization varied from 1 to 2 days.

Group II: 10 ambulatory patients, 5 with TMD and 5 with TN; TN had been treated with carbamazepine and TMD with splints and physical therapy; and

Group III: 10 trial patients who were newly diagnosed, 5 were diagnosed as TMD and 5 as TN.

All patients were more than 18 years old (mean 63.5 years old, SD = 17.7) and all had agreed to participate of the study and signed

Table 1
General characteristics of the patients (N = 30).

	Orofacial pain
Gender	Male: 8 (26.7%) Female: 22 (73.3%)
Occupation	Working: 6 (20.0%) Dismissed from work: 10 (33.3%) Housewife: 6 (20.0%) Unemployed: 5 (16.7%) Retired: 3 (10.0%)
Anterior hospitalization	Yes: 9 (30.0%) No: 21 (70.0%)
Reason for hospitalization	Pain: 28 (93.3%) Another reason: 2 (6.7%)
Expectations	Alleviation of symptoms: 14 (46.7%) Cure: 13 (43.3%) Worsening: 1 (3.3%) Normal life: 2 (6.7%)
Fears	Death/sequelae: 2 (6.7%) No improvement: 18 (60.0%) Failure of treatment: 6 (20.0%) Did not answer: 4 (13.3%)
Meaning of hospitalization	Positive: 9 (30.0%) Positive and negative: 4 (13.3%) Negative: 17 (56.7%)
Belief about hospitalization	Possibility of cure: 30 (100.0%)

Table 2
Patients' distribution about the question: "what are you being treated for at the clinic?" (N = 30).

What do you treat?	Group I	Group II	Group III
Affected organ	4 (40.0%)	2 (20.0%)	0 (0.0%)
The pain	3 (30.0%)	6 (60.0%)	10 (100.0%)
"I am here because of treatment"	3 (30.0%)	0 (0.0%)	0 (0.0%)
Other answer	0 (0.0%)	2 (20.0%)	0 (0.0%)
Total	10 (33.3%)	10 (33.3%)	10 (33.3%)

the informed consent. The local Ethics Committee approved the study.

The exclusion criteria were patients with previous diagnosis of psychosis, dementia or delirium, other pain causes, and patients with the inability to answer the questions during interview. There was no patient excluded in this study.

Data were collected using a semi-structured interview (Fig. 1) and the Hospital Anxiety Depression Scale (HAD).¹⁸ The hospitalized patients were evaluated at the preoperative period; patients who had been clinically treated had their interview scheduled, and patients newly diagnosed were evaluated immediately after the appointment for diagnosis.

The results were evaluated using frequencies and comparisons, and the HAD data were analyzed following the criteria of Botega

Table 3
Pain severity according to patients' opinion in the semi-structured interview (N = 30).

	Severity			Reason for severity	
	Very severe	Severe	No severe	Compared to other diseases	Because of symptoms
Group I	4 (40.0%)	1 (10.0%)	5 (50.0%)	5 (50.0%)	5 (50.0%)
Group II	2 (20.0%)	5 (50.0%)	3 (30.0%)	3 (30.0%)	7 (70.0%)
Group III	2 (2.0%)	2 (20.0%)	6 (60.0%)	6 (60.0%)	4 (40.0%)
Total	8 (26.7%)	8 (26.7%)	14 (46.7%)	14 (46.7%)	16 (53.3%)

Table 4Limitations of daily activities due to chronic orofacial pain ($N = 30$).

	Limitations		Limited aspect (%)				Coping with limitations		
	Yes	No	Emotional	Social	Professional	Routine	With treatment	Facing the pain	Religion
Group I	10*	0	19%	38%	19%	24%	7	2	0
Group II	7	3	23%	23%	15%	39%	3	0	4
Group III	10	0	25%	35%	20%	20%	6	1	3
Total	27	3	67%	96%	54%	83%	16	3	7

* $p = 0.045$, Chi-square test.

et al. (1995)¹⁸: anxiety can be scored as without symptoms (≤ 6.2), subclinical ($6.2 < x \leq 8.9$), mild ($8.9 < x \leq 11.5$), moderate ($11.5 < x \leq 13.8$) or severe (> 13.8), and depression can be scored as without symptoms (≤ 4.3), subclinical ($4.3 < x \leq 6.4$), mild ($6.4 < x \leq 11.8$), moderate ($11.8 < x \leq 12.3$) or severe (> 12.3). The answers to the open questions of the semi-structured interview were classified in order to quantitatively analyze them. Statistical analysis was performed using the Fisher's test and Student's t test. Significance level was 5%.

3. Results

Thirty patients were evaluated, and their general characteristics can be observed in Table 1. Only one (3%) patient had been in psychological treatment before the interview.

3.1. Aspects of pain and its treatment and hospitalization (semi-structured interview)

The most common object of treatment reported by the patients was the pain (Table 2). When asked about family support, 24 patients (80%) said that friends and family did not comprehend their chronic orofacial pain and were not able to help.

The majority of patients reported to have important limitations in daily activities (90%) (Table 3), and the social aspects were the most affected (34%) (Table 4). It was common to observe the positive association by the patient between the severity of the disease and the duration of pain. The patients informed that they had difficulties in understanding the proposed treatment by the anterior dentists.

The expectation about the success of the treatment was higher in Group I, therefore all groups considered the surgery a possibility of cure (Tables 1 and 5). In general, patients newly diagnosed were not considering the cure but thinking about the relief of pain as a symptom, and they had fear of no improvement (Table 6).

Previous hospitalization was reported by Groups I and II. All TN patients at Group I were hoping to stop their medication after the surgery. At Group I, 50% of patients were waiting for the second surgery, and four of them (80%) were TN patients.

Nine patients (90% of Group I) had positive thoughts about the surgery and were expecting the cure ($p = 0.01$). Negative aspects of the surgery were associated to the distance of the family and of work (70% of Group I).

3.2. Hospital anxiety depression scale scores (HAD)

Results of the HAD are in Table 7. The Group I showed higher levels of anxiety ($p = 0.05$) and depression was higher in Groups II and III ($p = 0.04$).

4. Discussion

Although there are many studies about the psychological aspects of chronic orofacial pain,^{1,2,11} this paper is possibly the first that investigated these aspects in association to the moment of the

history of the disease, especially comparing patients indicated for surgery with patients that had been clinically treated. The pain was considered by these patients as the object of treatment (Table 2), and this is coincident with what is known about the concept of the pain as the disease when it gets chronic.^{3,5,12}

Chronic pain compromises the habitual tasks and causes psychological distress, as anxiety and depression,¹² and it was found in this sample. Therefore, some striking characteristics were that severity of the disease was associated to higher limitations by the patients' report, and the expectation of cure was very high when they were asked about the surgery for pain. It happened even when they were undergoing the second surgery because of failure of the first one, and anxiety levels were higher in this Group (Table 7). On the other side, patients who had been clinically treated (Group II) had the higher levels of depression, as expected because of pain chronification.^{1,5,12}

Another interesting thing in the qualitative analysis of this sample was that their higher limitations were at the social aspects (Table 4), and they complained about the need of comprehension by the family; it was also cited as a negative factor of hospitalization the distance from their family. It is important to involve the patients and people around them to cope with the disease, which could help to control many limitations that were reported in this study.^{11,12}

Demographic characteristics of this sample were similar as expected for these diseases (NT and TMD)^{2,6,8}: mainly women

Table 5Expectations about the treatment for pain ($N = 30$).

	Cure	Improvement of the symptoms	That the "worst" do not happen	Get a normal life
Group I	6 (60.0%)	4 (40.0%)	0 (0.0%)	0 (0.0%)
Group II	2 (20.0%)	3 (30.0%)	1 (10.0%)	2 (20.0%)
Group III	3 (30.0%)	7 (70.0%)	0 (0.0%)	0 (0.0%)
Total	11 (36.7%)	14 (46.7%)	1 (3.3%)	2 (6.7%)

(73.3%), mainly not working. Many patients in this sample were away from work because of many reasons (Table 1), and they also reported to be distant from work as one negative aspect of the hospitalization, even with a short duration at the hospital (1–2 days). Getting away from the family and from work are important

Table 6Fears about the treatment for pain ($N = 30$).

	Sequelae/worst/death	Recurrence	Failure	No improvement	No fear
Group I	1 (10.0%)	1 (10.0%)	6 (60.0%)	2 (20.0%)	0 (0.0%)
Group II	1 (10.0%)	3 (30.0%)	0 (0.0%)	4 (40.0%)	2 (20.0%)
Group III	0 (0.0%)	0 (0.0%)	0 (0.0%)	8 (80.0%)*	2 (20.0%)
Total	2 (20.0%)	4 (40.0%)	6 (60.0%)	14 (46.7%)	4 (40.0%)

* $p = 0.007$; Chi-square test.

Table 7

Levels of anxiety and depression among the groups (N = 30).

	Group I		Group II		Group III		Total	
	Anxiety	Depression	Anxiety	Depression	Anxiety	Depression	Anxiety	Depression
Mean	13.2*	9.9	11.8	12.7**	10	10.1	11.67	10.9
Standard deviation	3.55	3.90	4.39	5.20	4.71	5.45	4.30	4.90
Degree of severity	Severe	Mild	Moderate	Moderate	Mild	Mild	Moderate	Mild

* $p = 0.05$; ** $p = 0.04$, Student t test.

issues that should be considered while controlling the psychosocial aspects of chronic orofacial pain patients.¹²

It is important to consider the limitations of this study, which include the use of a semi-structured interview, which allows a qualitative analysis of the data, and should be validated for research. It was mainly used because there is a lack of questionnaires focusing on hospitalization and orofacial pain patients. On the other hand, we chose patients with TN and TMD which represent the most common indications for surgery in orofacial pain patients, but other patients should also be evaluated in future studies.^{2,5} Surgery, especially for TMD, does not substitute the clinical treatment which includes physiotherapy, facial manipulation and splints, and the cases at this study corresponded to the few patients who have clear indication of surgery such as ankylosis and temporomandibular disc displacement without reduction.

In conclusion, patients who were hospitalized to treat their orofacial pains were more anxious and had more expectations about the treatment when compared to other groups, and depression was higher in patients of Group II. Surgery for chronic pain generates great expectations especially because it is considered a hope of cure. It is important to deal with it and to give information for them, and clinically treated patients also might understand the factors associated to surgery choices and participate at the process of choosing. In general, chronic treatment for facial pain needs psychological support to cope with it. Further research is necessary to explore psychological impairment, the role of the personal, professional and familiar relationships and chronic pain, and validation of these data needs to be carried out in larger samples and multicentric studies.

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Conflict of interest statement

There are no conflicts of interest.

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