

Invasive dental treatment, pain reports, and disease conviction in chronic facial pain patients

A retrospective study

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Patients with chronic orofacial pain often undergo endodontic therapy or surgery in an attempt to eliminate or relieve their symptoms. This study examined the relationship among invasive dental treatment, pain reports, and disease conviction in a group of patients referred for pain management. Forty-eight patients referred to the Facial Pain Diagnostic Group at the Karolinska Institute, School of Dentistry, Stockholm, were investigated retrospectively. There were 43 women and 5 men (age range, 30-81 years) with orofacial pain of more than 6 months' duration, which the patients considered to be of dental or paradental origin. Despite dental treatment intended to relieve the pain, no permanent relief had been achieved. There was no statistical correlation among the different pain reports, the individual types of treatment, and the disease conviction. The reason for the high degree of disease conviction in this type of patient warrants further investigation. □ *Endodontics; illness behavior; tooth extraction*

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Patients with chronic orofacial pain are commonly encountered in dental practice. The dental literature suggests that these patients have a psychiatric disorder that is an etiologic factor in their pain complaints (1).

Because the symptoms mimic pulpal and periodontal pathologic conditions, patients often undergo endodontic therapy or surgery. This may give temporary relief (2). As the pain recurs after every therapeutic intervention, patients frequently undergo multiple invasive treatments. Previous studies have indicated that these patients may develop an illness behavior pattern reinforced by every treatment failure (3).

The illness behavior of pain patients has been studied by questionnaire techniques (4, 5). The concept of illness behavior (IBQ), originally formulated by Mechanic (6) and developed by Pilowsky & Spence (5), represents an attempt to measure aspects of illness behavior along several dimensions. The IBQ has been used in several clinical settings. Overall, the DC (Disease Conviction) scale has been found particularly useful in distinguishing between clinical groups considered likely to show abnormal illness behavior and those in which it was less likely (3).

The purpose of this study was to investigate whether invasive odontologic treatment failure influenced pain reports and disease conviction in a group of patients with chronic orofacial pain.

Materials and methods

Subjects

This retrospective study comprised 48 patients seek-

ing consultation and care at the Facial Pain Diagnostic Group at the Karolinska Institute, School of Dentistry, at Huddinge University Hospital, Stockholm. They were selected by studying the records of all 61 patients referred to the group between 1981 and 1987. One subject was excluded because of language difficulties and five other patients because their facial pain had been successfully treated by dental intervention. A further seven were excluded because they did not complete the IBQ. The final sample comprised the remaining 48 patients, 43 women and 5 men, ranging in age from 30 to 81 years (Table 1). All the patients had undergone thorough investigation and any necessary treatment by dental clinicians at the different departments at the School of Dentistry.

Procedure

All patients completed the Illness Behavior Questionnaire (IBQ). The questions, which explore the factor disease conviction (DC), are shown in Appendix 1. For this study the original IBQ questionnaire was translated into Swedish. In addition to the IBQ scores, endodontic and surgical treatments were studied retrospectively from each patient record. Pain duration, pain localization, pain intensity, and sex and age were also recorded.

Measures

The original 52-item version of the IBQ described by Pilowsky & Spence (5) was used in this study. An expanded 62-item questionnaire has been developed,

Table 1. Distribution of chronic pain patients in accordance with age and gender

Age (years)	Women (n)	Men (n)
<31	1	—
31–39	10	1
40–49	7	1
50–59	13	1
>60	12	2

but this was unavailable to the investigators until the later stages of the study and was therefore not used.

The IBQ is designed to measure various aspects of how individuals experience and respond to their health status. The IBQ is self-administered, and the questions require a simple yes/no response. The IBQ yields scores on seven subscales: 1) general hypochondriasis, 2) disease conviction, 3) psychologic versus somatic perception of illness, 4) affective inhibition, 5) affective disturbance, 6) denial, and 7) irritability. The IBQ concept has been investigated by Waddell et al. (3). Aspects of the questionnaire have been criticized but not the section on disease conviction (DC). This study was limited to DC (see Appendix). High scores on DC indicate preoccupation with symptoms and a strong belief that disease is present.

The patients indicated the location of the facial pain in more detail on a diagram with outlines of the face. The facial diagram was divided into six areas. The pain distribution in the rest of the body was assessed by means of a diagram that included full body outlines, and the figures were divided into 45 anatomic areas in accordance with Margolis et al. (7).

The magnitude of pain intensity was assessed by means of a questionnaire containing nine sensory verbal descriptors. The individual variation of pain intensity varied from maximal to no pain (maximal or very very strong, very strong, strong, slightly strong, neither strong nor weak, weak, very weak, very very weak, no pain) (8). Pain duration, sex, and age were also recorded.

Non-parametric statistics (Spearman rank correlation) were used to investigate the correlation among the individual types of treatment, the different pain variables, and DC.

Results

The 48 subjects in this retrospective study had all been treated for orofacial pain but had not obtained any permanent relief of symptoms. Forty-three of the patients (89%) were women; of these, 25 (28%) were 50 years of age or more.

The pain duration ranged from 1 to 25 years. Only

two patients had pain duration of less than 2 years, and 20 patients had had pain for more than 5 years.

Twelve patients reported pain in one area of the face. The other 36 patients reported pain in from two to six areas, and in 26 patients the pain was distributed to both sides of the face at the same time. Thirty-five (72%) patients reported pain outside the face. The extrafacial pain was homogeneously distributed all over the body, with a slightly higher frequency in the back of the neck.

The questionnaire used for assessment of the pain intensity was answered by 42 patients. The descriptors 'maximal' and 'very, very strong' were used by 2 and 14 patients, respectively. Only seven patients reported a pain intensity below 'strong'.

Thirty-four (72%) patients underwent 67 endodontic or surgical treatments. The commonest procedures were extractions and endodontic therapy. Sixteen of the 34 patients had undergone apical surgery. The data suggest that when endodontic or surgical treatment was performed, it was often done more than once. Non-invasive therapeutic procedures such as prosthetic, periodontal, conservative, and stomatognathic (occlusal splints/jaw exercises) treatment were performed in 14 patients. This type of treatment was not correlated with pain reports or DC scores.

A high DC score (>3) indicates that the patients are convinced of the presence of disease, show great somatic preoccupation, and do not seem to be able to accept professional reassurance readily. Thirty-two patients (66%) had high (>3) DC scores.

To explore the relationships among the individual pain reports, the various therapeutic interventions, and the DC, Spearman rank-order correlations were completed. The number of different kinds of invasive treatment attempts (endodontic treatments, root surgery, extraction) in the individual patients was correlated to each other ($p < 0.001$). The negative correlation between non-invasive and invasive treatments was also significant. These correlations are logical and expected. The number of painful areas in the face was significantly correlated ($\rho = 0.49$, $p < 0.001$) to the number of painful areas on the rest of the body, which is in agreement with previous findings (9).

There was no statistically significant correlation between the different pain reports and the individual types of treatments, or between disease conviction and the individual treatment interventions.

Discussion

Patients with chronic orofacial pain often undergo ineffective endodontic and surgical treatment.

In the present study more than 70% of the patients had undergone invasive procedures, with no permanent relief from pain. The literature discussing chronic dental pain syndromes shows that the commonest inter-

ventions were extractions and endodontic therapy (68%), which were often multiple (1). A high frequency (67%) of the patients in this study had undergone multiple invasive procedures. The patients' discomfort is genuine, and they often urgently request some sort of treatment, almost invariably proposing invasive treatment such as surgery or endodontics. The dentist often complies and performs further treatment despite lacking indications. Experience shows that this may lead to unnecessary investigations, therapeutic procedures, and, all too often, complications adding to the original problem (1).

Chronic pain patients have several factors in common. In contrast to patients with diagnosed chronic diseases, they seldom know their correct diagnosis, and they do not know their real problem. The patients go on seeking new causes, do not readily accept reassurance from a clinician, and often deny the impact of psychological or sociologic factors on their condition. Chronic pain patients generally respond to the IBQ with higher scores on factor 2 (Disease Conviction) (5). A large proportion (66%) of the patients in this study presented a high score (>3) of disease conviction, which is in agreement with previous reports (5). It has also been proposed (3) that disease conviction is related to the number of unsuccessful treatment interventions. In this material of patients with chronic orofacial pain no such correlation was found. Nor was there any correlation between the measured pain variables and the DC.

The reason for the high degree of DC seen in this type of patient warrants further investigation.

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Appendix

Scale 2. Disease conviction: circle yes or no to indicate your answer to each question.	Response scored
1. Do you think there is something seriously wrong with your body?	Yes
2. Does your illness interfere with your life a great deal?	Yes
3. If the doctor told you that he could find nothing wrong with you, would you believe him?	No
4. Do you find that you are often aware of various things happening in your body?	Yes
5. Are you sleeping well?	No
6. Do you find that you are bothered by many different symptoms?	Yes