

## THE CLINICAL PRESENTATION OF FUNCTIONAL FACIAL PAIN SYNDROMES\*

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Functional pain accounts for a significant proportion of out-patient attendances in all the medical specialties, and dentistry is no exception.<sup>1</sup> Sixty per cent of all attendances at an Oral Medicine Clinic are for functional facial pain; this expresses not only the prevalence of this condition in orofacial practice but also highlights difficulties in diagnosing and managing these conditions.<sup>2</sup> Patients with functional pain presenting as toothache usually consult their dentist and, when organic dental causes have been excluded, are referred for specialist advice. However patients with oral dysaesthesias such as a burning tongue, usually consult their medical practitioner who may be unfamiliar with the clinical features which allow a diagnosis of functional facial pain to be made. The presentation of functional facial pain syndromes occurs in three distinct ways: as temporomandibular dysfunction, as atypical facial pain, and as oral dysaesthesia.

### Temporomandibular dysfunction

Temporomandibular disorders are referred to clinically and within the research literature under a number of synonyms<sup>3</sup> (Table 1), and variation in the defining criteria has caused confusion in treatment modalities. The most common term in clinical practice is temporomandibular joint dysfunction syndrome, which is unfortunate since the joint may not be involved. Typically the patient presents with unilateral facial pain affecting the masticatory muscles, which may or may not be associated with clicking of the temporomandibular joint on opening. The temporomandibular is a complex joint which slides forward as well as rotates on mandibular opening, and is separated from the base of the skull by an articular cartilage which, in turn, is an integral part of the lateral pterygoid muscle. Chronic over-opening or subluxing of the joint creates slackness of the joint capsule and ligaments, leading to dysfunctional movements of the cartilage causing an audible click, sticking of the joint on occasion, limitation of movement, or a feeling of fullness on the affected side. Joint radiography is usually unhelpful in management, and may reveal incidental pathological changes which deflect the clinician from the functional nature of the condition. Similarly arthroscopy and surgical intervention are not justified in the absence of clinical evidence of organic pathology.

As with all forms of functional facial pain syndromes, females presenting for treatment of temporomandibular disorders outnumber males by approximately 5 to 1, although it has been suggested that this represents presentation patterns rather than a difference in the prevalence of symptoms within the population.<sup>4</sup> Patients are usually young, in their late teens or in their twenties, and the symptoms may be associated with tooth clenching during the day, or while sleeping, or nocturnal grinding (bruxism).<sup>5</sup> Nocturnal muscle activity leads to a feeling of pain and fatigue of the masticatory muscles in the morning on

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wakening. A depressive illness, with or without anxiety may be associated, and indeed, in a study by Feinemann *et al.* 1984, 57% of patients presenting with temporomandibular joint or orofacial pain had a psychiatric diagnosis.<sup>6</sup> Depression and anxiety, however, are not prerequisites to the diagnosis of temporomandibular dysfunction.

TABLE 1

Synonyms for temporomandibular disorders

Costen's syndrome	Myofascial pain dysfunction
Craniomandibular dysfunction	Temporomandibular pain dysfunction syndrome
Facial arthromyalgia	

Pain in the masticatory apparatus tends to be self-perpetuating, since prolonged muscle spasm causing pain produces further muscle spasm creating a vicious circle which may be further aggravated by anxiety or distorted function<sup>7</sup> (i.e. abnormal masticatory patterns). Clinical examination may be unremarkable, or there may be reduced movement of the joint on the affected side due to protective muscle spasm with associated deviation of the mandible to the affected side on opening. Intra-orally there may be evidence of facet formation on the teeth due to clenching or grinding. It is a popular view that lack of support for the dentition posteriorly, due to loss of molar teeth, leads to increased pressure on the temporomandibular joints creating dysfunction, although there is no scientific evidence to support this theory.<sup>8</sup> Occasionally disease of the joint may present with pain, although the symptoms may be atypical.<sup>9</sup> Patients may admit to a clenching habit with an exacerbation of symptoms during periods of stress. Occasionally a traumatic event resulting in acute arthritis initiates the syndrome. Therapy comprises reassurance with an explanation of the nature of the dysfunction. Patients should be asked to restrict their jaw opening since this allows reduction in joint laxity to take place with concurrent reduction in symptoms and may cause resolution of the clicking; patients should be discouraged from deliberately clicking and subluxing their joint to assess progress. During periods of significant discomfort benefit may be obtained from non steroidal anti-inflammatory agents such as Ibuprofen. When symptoms are acute, short term therapy with a muscle relaxant such as diazepam will cause rapid resolution.

The condition should be re-assessed after a month, and if symptoms persist the patient referred to a dental practitioner for construction of a lower flexible occlusal splint which can be worn at night (Fig 1). Occlusal splints may interfere with clenching and grinding habits, although the mechanism of action is unclear. The placebo response obtained from wearing the appliance is probably significant.<sup>10</sup> Seventy-five per cent of patients respond to the aforementioned measures completely within a three month period. The remainder, who usually exhibit abnormal illness behaviour, require psychotropic therapy. In the study by Feinemann *et al.* 1984,<sup>6</sup> 73 per cent of patients responded to dothiepin therapy but only 44 per cent to placebo or splint therapy. The details of appropriate psychotropic therapy are discussed later. Regardless, 10 per cent of patients will remain chronic pain sufferers.

### Atypical facial pain

Atypical facial pain is usually unilateral and centred over the maxillary alveolus,



FIGURE 1  
A vacuum-formed flexible lower occlusal splint.

although any quadrant of the mouth may be involved. The pain may be episodic, but usually constant or lasts for several weeks without remission. Most patients are female and present in the fourth or fifth decade in contrast to those with temporomandibular disorder.<sup>3</sup> Again, anxiety or depression may be associated although this is not a prerequisite. The locality of the pain may be determined by previous episodes of organic pain; chronic dental pain in a specific quadrant seems to make that particular location more susceptible to functional pain.

Although certain features discussed below suggest the diagnosis of atypical facial pain, organic dental causes should be excluded, and this requires referral to a dental practitioner. Elimination of dental causes may be difficult especially in a heavily restored dentition, and removal and replacement of fillings and crowns, along with repeated endodontic procedures, is often an integral part of the diagnostic process. Tooth extractions should be avoided, although this may be difficult when the patient is insistent and the pain is specifically related to one tooth (atypical odontalgia) or one part of the periodontium (atypical periodontalgia). Other physical findings are unremarkable, although there may be associated puffiness of the face overlying the area of chronic pain.

The characteristics of the pain are firstly that it is chronic; it is difficult to explain pain lasting for many months on an organic basis and toothache seldom lasts more than a few days. The pain is not usually exacerbated by foods or drinks, and indeed the distraction of eating may improve the symptoms. Pain,

however, is not eliminated by analgesics. When the symptoms present as toothache a dental practitioner must be involved in diagnosis. Regardless, this may be a protracted process; 60 per cent of patients attending an Accident and Emergency Department in a Dental Hospital complain of pain, and of these 98 per cent have odontogenic pain. It is therefore more difficult to diagnose functional pain when dental causes may be present. This is further complicated by the observation that operative intervention by a dentist, either restorative work or an extraction, usually exacerbates the pain which may then become intractable. Once the diagnosis has been made, psychotropic therapy, as discussed later, is effective in the vast majority of patients.

TABLE 2  
Causes of burning tongue

Psychological disorders	Diabetes
Candidiasis	Geographic tongue
Denture problems	Xerostomia
Nutritional deficiencies	Allergy

Simple trigeminal neuralgia can be easily distinguished from atypical facial pain because of the fleeting and lancinating nature of the pain associated with a trigger zone in the distribution of one of the branches of the trigeminal nerve. However, 50 per cent of patients with chronic trigeminal neuralgia concurrently develop atypical facial pain and may then present with a continuous facial pain with superimposed stabs of lancinating pain.<sup>11</sup> Carbamazepine rapidly brings the neuralgic episodes under control and psychotropic therapy is then required to control the constant pain.

#### Oral dysaesthesia

Oral dysaesthesia usually presents as a burning tongue or less commonly as burning of the lips. It may also present as a taste disturbance which is usually unpleasant, dryness of the mouth or an accumulation of saliva with a sensation of spitting when speaking or drooling saliva, particularly when lying down. The condition affects mainly menopausal or post-menopausal women and persists indefinitely without therapeutic intervention. The condition may be associated with denture intolerance, and patients who have got new dentures in an attempt to alleviate their problems may find these unsatisfactory and have them modified on numerous occasions in a vain attempt to rectify their complaint. Again, the patient may concurrently be suffering from anxiety and/or depression.

A number of organic causes may give rise to an unpleasant sensation in the mouth<sup>12</sup> (Table 2) and these should be considered and eliminated, in the first instance, unless the characteristics of the oral dysaesthesia are obviously diagnostic. If nutritional deficiency is suspected it should be excluded by assays of ferritin, folic acid and vitamin B<sub>12</sub> since the majority of nutritional deficiencies giving rise to oral symptoms are latent in nature. Undiagnosed non insulin dependent diabetes or a pre-diabetic state may present with an oral burning sensation and a fasting blood sugar is mandatory in such patients. The appearance of geographic tongue may be quite dramatic, although seldom causes significant discomfort except on eating hot or spicy foods. When patients complain of significant and constant burning, psychogenic causes should be anticipated even in the presence of a

geographic tongue. Candidiasis is easy to diagnose in its pseudomembranous form (thrush), although this is inevitably secondary to a medically-compromised state. Erythematous forms of candidiasis are more difficult to diagnose although are much more prevalent, and half of wearers of full dentures have a candidal infection under the fitting surface of their upper one. If a fungal infection is responsible for the oral symptoms, a rapid response to systemic anti-fungals such as fluconazole is diagnostic. Denture problems may be difficult to assess since many patients wear totally inadequate dentures yet are trouble-free. Moreover, provision of new dentures for a patient with psychogenic oral dysesthesia and denture intolerance is fraught with difficulties and may aggravate the situation. If the functional nature of the oral dysaesthesia is characteristic, replacement of dentures should be deferred until after a therapeutic trial of psychotropic therapy. Allergic causes for an uncomfortable mouth are rare in the absence of physical pathology, and certainly denture allergy is an insignificant cause of such symptoms.

In the absence of any visible mucosal pathology, characteristic features of a psychogenic oral dysaesthesia should be looked for. The most significant of these is a diurnal variation in the nature of the symptoms; patients are only mildly troubled or symptom free on rising in the morning but the discomfort increases throughout the day reaching a crescendo in the evening. Such pain, however, does not prevent patients from getting to sleep and not wake them, although characteristically they have sleep disturbance and early morning waking due to associated depressive illness. In contrast to mucosal disease where mucosal atrophy and/or ulceration leads to sensitivity or the mucosa, oral dysesthesia is inevitably relieved by eating or drinking, and occasionally by bizarre distractions, e.g. placing items such as ribbons on the dorsum of the tongue. Symptoms have often been initiated or aggravated by adverse life events and there may be a history of previous antidepressant therapy associated with, for example, the loss of a spouse. At such times depressive symptoms may often have been recognised but the oral dysaesthesia is not appreciated as an associated symptom and psychotropic therapy is curtailed before oral symptoms have abated.

#### Treatment

The treatment of functional pain syndromes requires a psychological and a pharmacological approach. Reassurance that the clinician has confidence in the diagnosis is extremely helpful since patients have usually already been inappropriately informed of the fanciful or imaginary nature of their symptoms. Moreover, cancerphobia is a component of many facial pain syndromes, and reassurance on the lack of detectable pathology is important. For this reason, these patients are probably best managed in a specialist Oral Medicine clinic. Anxiety and depression may also result from a combination of chronic pain and the frustration of fruitless medical and dental consultations.

In addition to the specific measures mentioned previously, psychotropic therapy is usually successful. Patients can be given tricyclic anti-depressants; dothiepin in a dose of 50–75 mg at night is the usual regime.<sup>6</sup> They should be warned that a therapeutic response cannot be anticipated for some weeks, although many get immediate relief by mechanisms that remain unclear. Certainly there is an immediate improvement in sleep patterns and a reduction in anxiety. An appropriate therapeutic dose can be titrated against symptoms of drowsiness which

should only persist transiently on waking. Patients who cease therapy in less than six months because of a positive therapeutic response are at risk of recurrence and most patients benefit from therapy in excess of six months. Seventy per cent of patients should be able to terminate therapy within 12 months of diagnosis. Recently the use of selective serotonin re-uptake inhibitors has increased because of their apparent safety record and lack of side effects, particularly xerostomia. A typical regime would be to use paroxetine 20 mg, in the morning for an extended period. Patients inevitably become treatment failures if their level of expectations is too high; it should be made clear to each one that initiation of psychotropic therapy will not be curative but will progressively diminish their symptoms; and with an increasingly positive attitude, there should be significant diminution or total relief of symptoms but only after several months. Some patients who make no progress with either tricyclic anti-depressants or selective serotonin re-uptake inhibitors, occasionally benefit from the use of major tranquillisers alone, such as fluphenazine or in combination with the aforementioned drugs.<sup>9</sup> A therapeutic response within one month would be expected, but treatment should be continued in the absence of side effects for several months to obtain complete resolution.

Once resolution of the symptoms of functional facial pain has been evident for several months, patients can stop all therapy, but some experience recurrence after a variable length of time. Those who responded favourably to the first therapeutic regime inevitably do well on re-introduction of the medication and may require treatment sporadically. A small number of chronic pain sufferers remain without benefit and care must be taken not to create dependency of these patients on the medical or dental practitioner and they may require specialist psychiatric treatment.

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