Facial pain
a biopsychosocial problem

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Facial pain can be difficult to diagnose as patients often have a long history of pain, complex symptoms and few clinical signs. Psychological factors can magnify the reported intensity of pain and complicate the taking of a detailed and relevant history. A multidisciplinary approach is needed to diagnose and treat patients with chronic facial pain.

Facial pain may not exhibit obvious signs on which to base a diagnosis. Furthermore, psychological distress may mask underlying, but difficult to detect, organic pathology. Consequently, this may bias the doctor to ascribe a facial pain condition to having originated from, and to being maintained by, purely psychosocial factors. The controversial, diagnostic term used to describe this type of pain is psychogenic facial pain (previously termed atypical facial pain). Unfortunately, both terms are sometimes used as a 'clinically convenient' diagnosis when no pathology is detected.

Psychogenic facial pain is associated with vague signs and symptoms, and its basis is poorly defined. Whether pain can exist without nociception or neuropathy is debatable, and confounding statements appear even within the current classification of pain (International Association for the Study of Pain).[1] In all probability, psychogenic facial pain comprises a 'mixed bag' of conditions, ranging from undetected pathology to pain from an innocuous stimulus that is magnified by psychological and/or environmental factors.

Facial pain is more common in women than men (2.5–3:1), its incidence being particularly high in postmenopausal women. Various explanations in gender differences include conflicting data attributed to pain threshold and the seeking and use of health care services. Recently, the identification of oestrogen receptors in the orofacial region, coupled with modulating influences of the sex hormones in pain mechanisms, suggest that anatomical and biochemical variables are research areas that warrant further investigation.[2,3]

Clinical features

Patients presenting with facial pain, and its associated psychosocial problems, are characterised by having a broad range of symptoms but few clinical signs. By nature, symptoms are subjective and influenced by the range of factors that can influence all self-reports. This is particularly true of pain

IN SUMMARY

- **Facial pain should be diagnosed carefully; consider undetected pathology such as neuropathic pain and obtain psychological (and possibly psychiatric) assessment.**
- **Patients with facial pain report pain that is usually constant and severe, and their expectations of pain relief may be unrealistic.**
- **Co-existing pain states may be present in the facial region increasing the complexity of diagnosis and treatment.**
- **Diagnosis and treatment of chronic facial pain requires a multidisciplinary approach, with long term management co-ordinated by the patient's GP.**

Figure a (left) and b (right). The expression of facial pain. A 55-year-old woman with a one year history of right sided facial pain following an assault to the face. The patient reported that the assault had caused a great deal of ongoing personal stress and she had developed a poor sleep pattern. She rated the pain as 5/10 on a numerical rating scale (where 0 = no pain, and 10 = worst pain imaginable), and described it as 'constant' with 'lacerating', 'pressing', 'tugging', 'itchy' and 'vicious' qualities. She was diagnosed with temporomandibular disorder and there was the possibility of neuropathic pain.

descriptions. Furthermore, patients and doctors are unlikely to share the same definitions of 'pain', 'hurt' and 'suffering'.

The difficulties of accurately conveying information and impressions can be seen in the variability of 'clinical pain intensity' responses measured by the numerical rating scale (where 0 represents no pain and 10 the worst pain imaginable). Patients may rate their pain intensity as 10 during a consultation but appear to be in no distress (see Case study 1). In addition, their responses to seemingly innocuous physical stimuli may be far greater than those reasonably expected by the doctor.

Although controversial, psychological and environmental factors (beliefs, emotional state, and socioeconomic, cultural and educational variables) may play a major part in the symptoms experienced by many patients suffering from facial pain, as with chronic pain generally.

The two common diagnoses for patients with chronic orofacial pain are neuropathic pain and temporomandibular disorder (TMD). Both conditions can encompass widespread areas of pain, or pain that 'migrates', adding to the difficulty for a doctor to diagnose confidently a pain state. For example, the progression of neuropathic pain is based on complex pathophysiological mechanisms (neuronal 'plasticity'), and traditional 'hard-wired' neural pathways cannot explain its spread. Complicating the picture of neuropathic pain is associated sympathetic hyperfunction, allodynia (pain from a stimulus that does not usually cause pain), hyperalgesia (increased response to painful stimuli), and hyperpathia (increased sensitivity to stimulation).

TMD, a myofascial pain state, is known historically as a painful jaw or jaw joint condition; however, most patients with chronic TMD report widespread pain in the head, neck and shoulder regions.[4] Bruxism (jaw clenching and tooth grinding) due to 'stress' is considered the prime causal factor in TMD. In addition, TMD may (and indeed in most patients does) develop secondary to neuropathic facial pain, thus complicating the clinical presentation (Figure).

It is important to realise that pain states such as neuropathy and nociception, in addition to psychological distress, often co-exist in the facial region, yet the respective treatments are considerably different.

Diagnosis

Multidisciplinary approach

Diagnosis of any chronic pain condition requires a multidisciplinary approach, typically involving assessments by an anaesthetist (pain specialist), a physiotherapist, a clinical psychologist or psychiatrist and, for orofacial pain, a dental surgeon.

Referral for psychological assessment

Assessment of psychological factors requires considerable skill and experience and should be sought only from psychiatrists or clinical psychologists who have expertise in the field of pain.

If there appears to be no clear pathological basis to a patient's pain, referral for psychological assessment must be handled sensitively. The reason for the referral should be fully explained to the patient. The doctor should explain that such pain problems are complex and they cause suffering and distress, which in turn can lead to physical changes in the body, such as muscle tension. Both the doctor and patient should have a common understanding that the patient is not 'crazy' or 'imagining the pain'. Patients who think that they have been told that the pain 'is in their head' are likely to reject any advice given to them.

In addition to taking a routine medical and pain history and conducting a clinical examination, the doctor should obtain specific information relating to psychological variables associated with the pain, including the following:

- relevant psychosocial circumstances associated with pain onset
- effect of pain on employment, social activities and sleep
- frequency and nature of contact with health professionals regarding pain
- patient's beliefs of the cause of his or her pain
- patient's and family's expectations from treatment
- presence of depression, anxiety or psychiatric disorder
- ways the patient describes or shows the pain.

Case study 1. A passive approach to management

A 47-year-old woman had a 20-year history of pain involving bilateral aspects of the face; her pain was centred in the left and right temporomandibular joints. Further areas of chronic pain included shoulders, back and knees. The pain increased in severity with weather changes, during cold weather, and when eating. Sometimes, 'only a pain injection' would decrease the pain for a short time.

The patient was divorced and claimed the onset of pain followed a 'broken jaw suffered on my honeymoon'. She had undergone five confirmed operations on the temporomandibular joints, and reported 37 other (unconfirmed) operations, mainly to the breasts and genital region. The pain was rated as 6/10 (on the numerical rating scale) and sensory pain descriptors included 'throbbing', 'stabbing', 'searing' and 'aching' qualities. The pain was 'continuous and severe' and affective descriptors were 'frightful', 'exhausting' and 'agonising' qualities.

Paradoxically, the patient claimed she was 'cheerful most of the time', 'definitely relaxed', 'not tense' and 'never afraid'. The patient reported no previous psychiatric assessment, and she declined further treatment during her consultation with the oral surgeon (ERV) when advised that psychiatric or psychological assessments were needed.

Commentary

While the patient refused psychiatric or psychological assessment, examination of her pain questionnaires suggested that she was reacting to her pain in excessively negative and unhelpful ways. She was also taking a passive approach to its management, expecting the oral surgeon to resolve the problem and taking no responsibility herself – in fact she was denying any role.

Such approaches are often associated with poor outcomes, greater distress and disability, and high use of healthcare services. The patient claimed 'constant', 'severe' and 'agonising pain' at her initial consultation, yet appeared in no obvious distress. Indeed, there were frequent episodes of laughter from the patient and she stated she was 'proud' of her history whereby surgery had failed to 'take away the pain'. While the numerous surgical procedures may have caused neuropathic pain, the patient steadfastly refused to undergo saline and lignocaine infusions for neuropathic pain assessment, and psychological or psychiatric evaluation.

In view of the conflicting features of this case, earlier consideration of psychological factors may have prevented overuse of the medical and dental services aimed solely at identifying an organic basis for her complaints.

The McGill Pain Questionnaire

The description of a pain condition (i.e. the patient's choice of words applicable to the qualities of the pain condition) can provide simple but valuable information for the diagnosis, assessing the levels of psychological distress, and the selection of appropriate drugs for treatment. The McGill Pain Questionnaire (MPQ) is a relatively simple pencil and paper instrument completed by the patient. It consists of groups of words describing sensory, affective and evaluative pain qualities.[5]

Patients with trigeminal neuralgia, for example, often list sensory descriptors such as 'shooting', 'stabbing' and 'cutting'. However, chronic pain patients with a significant affective component indicating psychological distress are likely to list descriptors such as 'sickening', 'terrifying' and 'cruel' qualities to their pain. Specialist psychological or psychiatric assessment is a requisite for patients listing multiple, affective pain word descriptors (see Case study 2).

Differential diagnosis

Diagnostic procedures used to screen for pathology include radiography, computed tomography, magnetic resonance imaging and blood screens.

Chronic orofacial pain conditions that should be considered in the differential diagnosis include the following:

- atypical odontalgia, which is a

constant, severe, intraoral neuropathic pain at the tooth site that spreads to adjacent mucosal tissues; its aetiology is attributable to dental pulpitis and dental treatment (root canal therapy, extraction)[6]
- trigeminal neuralgia, which presents as attacks of short, sharp and excruciating pain located usually in the maxillary and mandibular divisions of the trigeminal nerve
- burning mouth syndrome, which presents as a constant, burning pain throughout the oral cavity, particularly the tongue; it can be caused by vitamin or iron deficiency and may be a neuropathic pain condition
- impacted third molar teeth, which may cause periodic pain in the preauricular region; it is more common in people aged 15 to 30 years
- temporomandibular joint pathology, including displaced joint disc, rheumatoid arthritis and osteoarthritis
- other conditions, including temporal arteritis, carotidynia, maxillary sinusitis, salivary gland pathology, neurological disorders and headache syndromes (tension, migraine, etc).

Locating the pain site

Sequential, patient-blinded, placebo controlled, local anaesthetic blockade should be used to locate peripheral pain sites. In the orofacial region sequential techniques performed over several days would include the use of dermal or oral mucosal topical anaesthetics such as EMLA cream 5% (lignocaine/prilocaine), followed by local infiltration, then trigeminal nerve branch blocks (mandibular, infraorbital, etc). Further tests (systemic infusions) can be performed by an anaesthetist and include patient-blinded saline and lignocaine infusions to evaluate neuropathic pain, and saline and phentolamine (Regitine) infusions to assess sympathetically maintained pain.

Case study 2. Sharing responsibility for management

A 55-year-old woman, divorced and engaged in voluntary church work, had a six-year history of orofacial pain. The cause of the pain was unknown, although there was a history of a fractured skull and jaw.

The pain was 'periodic' and rated '10/10' (worst pain imaginable). Many pain descriptors were listed, including 'quivering', 'flashing', 'stabbing', 'aching', 'exhausting', 'sickening', 'vicious', 'radiating', 'tearing', and 'torturing'. The patient also exhibited signs and symptoms indicative of an accompanying temporomandibular disorder: jaw joint pain and clicking, neck ache, headaches, sore tongue, dizziness, restricted oral opening, facial muscle tension, numbness in the face and sinusitis-like symptoms. The patient was edentulous and wore poorly-fitting upper and lower dentures.

Commentary

This woman had multiple sensory and affective pain descriptors suggesting she was finding the pain quite distressing. However, in contrast with the patient in Case study 1, this woman developed a more balanced lifestyle and kept quite active, except when the pain was at its worst. She was realistic in her expectations for treatment and able to share the responsibility for the management of her pain, as evidenced by her good compliance with treatment and acceptance of reassurance.

Treatment included a tricyclic antidepressant (doxepin [Deptran, Sinequan]) and construction of new dentures. This resulted in a 90% pain reduction at review, although occasional breakthrough episodes of pain were reported for which simple reassurance was effective.

Treatment and management

Treatment of patients with chronic facial pain is based on multidisciplinary assessments. As with all patients with chronic pain, there are physical, psychological and environmental variables that must be considered. We have found that most patients with facial pain are generally uncertain about future pain relief, yet they expect a substantial degree of pain reduction from the attending doctor. Indeed, unequivocal pain relief is expected by some patients despite many years of suffering and failed treatments.[7] In addition, the patient's suffering, often combined with spouse or family concerns, can place inordinate pressure on doctors to prescribe analgesics for the 'current pain'.

Chronic pain is usually constant, but with variable intensity that can be influenced by psychosocial and environmental factors. Recognition of these attendant factors, if present, directs the need for appropriate psychological treatments.

When selecting pharmacological treatments, the doctor must consider several drug variables, including individual drug therapeutic/side effects ratios, drug interactions and the patient's medical status. Initial treatment recommended by a specialist pain centre, and subsequent long term management by the patient's GP, should comprise of the following broad range of interventions that must be tailored to the patient.

Rationalising drug regimens

Narcotics, sedatives and other drugs of dependence should be reduced and withdrawn. Long term, low dose (tricyclic) antidepressants are given to provide background levels of analgesia, together with adjunct medications, such as anticonvulsants (carbamazepine [Carbium, Tegretol, Teril], sodium valproate [Epilim, Valpro], gabapentin [Neurontin) and membrane stabilisers (mexiletine [Mexitil]), when indicated.

Specialist psychological or psychiatric treatment

Psychological or psychiatric treatment should focus on the development of effective coping strategies (for example, relaxation techniques, and cognitive and behavioural strategies), problem solving skills, and dealing with unresolved issues in the patient's life.

Physical interventions

Physical therapy can be administered to the jaw and neck musculature when myofascial pain (TMD) is diagnosed. This includes the use of short term aggressive physiotherapy (ultrasound, laser treatment) and long term maintenance therapy (jaw and neck extension exercises). While beneficial in most patients, ultrasound and acupuncture may occasionally aggravate the pain condition. Dental occlusal splints are another useful physical measure for some TMD cases.

Summary

Facial pain is often described as continuous and severe. Patients may be poor 'pain historians' and coexisting pain states may be present in the same region, thus complicating the difficulty in diagnosing the problem or problems. Psychosocial factors may have an important role in magnifying or minimising pain, and in maintaining pain. Afflicted patients may be depressed and believe they have an uncertain future regarding employment. Most are unaware of the causes, effects and treatments for chronic pain, yet may have an unrealistic expectation of pain relief from their doctor. Appropriate chronic facial pain assessment uses a multidisciplinary approach. The GP has a crucial role in drug rationalisation and co-ordinating long term management with the clinical psychologist, physiotherapist and dentist. MT

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