FEATURE

The complexities of pain and its management

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Pain is considered important enough that an international association was formed to study it – The International Association for the Study of Pain (IASP).

What is pain? Pain is defined by the IASP as "An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage." [1] The standard definition of chronic pain as described by the International Association for the Study of Pain is pain that persists past the healing phase following an injury[1].

The definition of orofacial pain includes pain from odontogenic origin, diseases of the oral mucosa and salivary glands, temporomandibular disorders, and neurological (e.g. neuralgia) and vascular (e.g. temporal arteritis, autoneuronic cephalgias).[2]

Almost all of us have experienced pain at some stage in our lives, and dealing with pain is what we mainly do within the dental profession (our so called "bread and butter"). Training for dentists around the world is mostly based on a five year course, however even though the profession deals with the relief of pain there is very little time within the dental curriculum for learning and teaching about pain. It is probably best to refresh ourselves on some definitions in order to gain maximum benefit from this review.

Acute pain is described in terms of pain which resolves relatively quickly and to which an obvious cause is usually apparent and the management un-complicated and often effective.

In contrast **chronic pain,** which is defined as pain lasting longer than three months, can often be of a more complex nature especially in terms of diagnosis and management. Some other terms associated with pain are:

CLINICAL TERMS ASSOCIATED WITH PAIN (FROM IASP[1])

Anaesthesia - Absence of pain in response to stimulation which would normally be painful.

Analgesia – Absence of pain in response to stimulation which would normally be painful.

Allodynia – Pain due to a stimulus that does not normally provoke pain.

Dysesthesia – An unpleasant abnormal sensation, whether spontaneous or evoked.

Paresthesia – An abnormal sensation, whether spontaneous or evoked.

Neuropathic pain – Pain caused by a lesion or disease of the somatosensory nervous system.

Neuralgia – Pain in the distribution of a nerve or nerves.

Nociceptive – tba

With chronic pain there is an interaction between peripheral and central neurotransmitters and psychological function to maintain the pain. The treatment of chronic pain is therefore directed at blocking the transmission by medical means or through neural distraction (gate control theory), cognitive behaviour therapy and possible psychological management.[3] In my opinion the occlusal splint possibly work by a neural distraction, with also some benefit of load reduction.

Pain in simple terms is therefore what the patient says "hurts". At present, as clinicians, our ability in terms of clinical acumen and technologies available are not good enough to enable us to correctly diagnose all pain aetiologies. It is for this reason that pain may be described as nociceptive, neuropathic or psychogenic.

Nociceptive pain where it relates to tooth associated problems may occur due to caries inducing pulpitis (both reversible and irreversible). Descriptors used may be "pain to sweet, hot and cold or to biting", also a "cracked tooth" may give symptoms to "hot and cold and or pain on biting". These descriptors don't generally occur with the complex chronic pain conditions and can often be resolved by a general dentist through normal restorative measures. It is important to note that reversible pulpitis may also create pain which is poorly localised.

Periodontal disease may also cause generalised or localised aching, or dentine sensitivity which often may appear complex. Management is often reasonably straight forward with either periodontal treatment or the use of dentine desensitising agents in the first instance. Always remember that with pain management, the time spent in the interview

> "Always remember that with pain management, the time spent in the interview is most important for a correct diagnosis – *Dr Ajith Polonowita*"

is most important for a correct diagnosis. Improve your pain vocabulary and remember to ask many questions or prompts in order to gain an accurate picture. Some suggestions are:

PAIN DESCRIPTORS

1. When did the pain start?
2. How did it start?
3. How do you describe your pain? (Burning, shooting, dull, sharp, annoying, and throbbing?)
4. Is it continuous or intermittent?
5. What exacerbates the pain? What relieves the pain?
6. What treatment if any has been carried out so far?
7. Can you point to where your pain is?
8. Numerical scale (from 0-10) where would you put your pain?

Neuropathic pain is a category that is often difficult for clinicians to diagnose and manage. Patients with neuropathic pain may convince a clinician to extract or endodontically treat a tooth that otherwise appears clinically normal. Often as a result the patient is left with the pain and the clinician is often left with a loss of confidence and worse still the possibility of a lawsuit.

Neuropathic pain is due to dysfunction of the nerves and can have a variety of clinical presentations. Neuropathic pain is commonly described as "burning", "aching" some times like toothache (hence mistaken for tooth ache), and paroxysms of sharp pain. The pain may be intermittent (such as trigeminal neuralgia) or continuous (such as post-herpetic neuralgia and possibly burning mouth syndrome {BMS}).

Neuropathic pain may have a central component (that is the dysfunction is in the centrally placed nerves or receptors; or a peripheral component (where it is peripheral nerve damage that is most likely involved) or a combination of both. [4, 5]

Psychogenic pain is the least understood by the dental profession and most will erroneously label a patient as psychogenic when the clinical ability or patience of the attending clinician has been exhausted. Suffice to say that as time passes the patient's perception of the pain is changed and this may appear to an inexperienced pain clinician as conflicting symptoms. This may confuse the clinician somewhat and therefore their initial reaction may be to label that patient's pain as imagined, in doing this a great disservice will be carried out.

SOLUTION

The advice here is that if you feel that the patient's description of pain is confusing and or beyond your capabilities both from a knowledge base and in terms of patience, it is better to refer the patient to a pain physician. Also remember that more than one condition can occur at the same time, on occasion so do not fall in to the trap of trying to fit all of the signs and symptoms into one condition when there may be the possibility of two problems being present.

Once the common causes of pain around the mouth and face have been excluded then the guideline for more complex pain conditions would usually fall into the following four categories:

1. Musculoskeletal: this includes arthralgias, TMJ derangement and other temporomandibular disorders (TMD)
2. Neurovascular: This includes cluster headaches, autonomic cephalgias, migraine
3. Neuropathic: This includes peripheral (BMS, peripheral nerve damage), mixed (trigeminal neuralgia) and central neuropathic pain
4. Psychogenic – somatisation disorders, personality disorders

Apart from category 1, the others are probably best referred to a specialist within those specific fields.

With regards to TMD, it is important to dismiss some of the urban myths and be informed about the recent research that has improved our current understanding of this topic.

TMD REPORTS FROM RECENT LITERATURE

1. Occlusion/malocclusion is not an etiological factor in TMD.[6]
2. 3rd molar surgery is not an etiological factor in TMD.[6]
3. Bruxism is associated with a sleep disorder, and is not an etiological factor in TMD. It may how ever help propagate the problem.[7]
4. Genetic basis may explain why some percentages of the population are prone to getting these chronic pain conditions. Pain genes recently discovered such as COMT (Catachol-O-Methyl transferase) may play a part in chronic pain.[8]
5. Splint therapy is an effective method of management of TMD.[9]
6. Significant differences between chronic TMD and controls with respect to trauma history, parafunction, other pain disorders and health status have been reported.[10]
7. Significant differences between TMD cases and TMD-free controls across multiple psychosocial constructs have been reported.[11]

SUGGESTED THEORIES WITHOUT CURRENT EVIDENCE

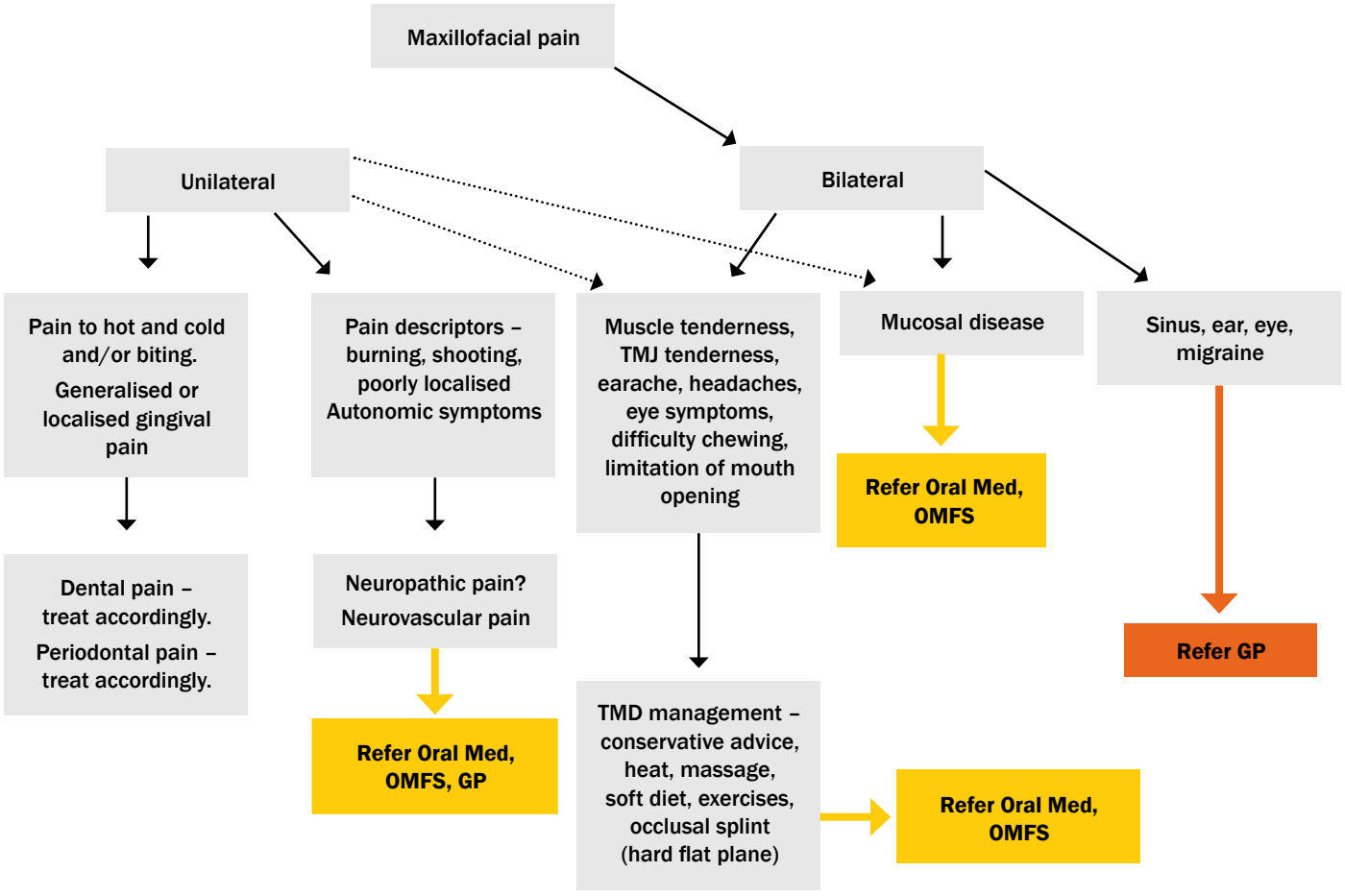
1. BMS is a neuropathic pain condition.
2. TMD may have a neuropathic component due to long standing and continued pain impulses.

SUMMARY OF MANAGEMENT

Based on current evidence and clinical experience, a schematic to be followed in clinical practice is shown in diagram 1.

1. Remember "pain" is what the patient says "hurts"!
2. Dental and/or periodontal pain (generally well localised, occasionally not) – undertake necessary dental/ periodontal treatment and prescribe analgesics as required. Antibiotics if indicated.
3. Irreversible pulpitis (may or may not be well localised)- Endodontic or exodontic management and analgesia as required.
4. TMD – Conservative management; massage, heat, soft diet, full coverage flat plane hard acrylic splint, cognitive behaviour therapy and review or refer to Oral Medicine.
5. Remember that the current thinking for management of TMD is minimal intervention and goes back in time to where we first began; primum non nocere "first do no harm."[12]
6. Suspected sinus, ear and or eye related pain – refer to GP.
7. Suspected tumour – urgent referral.
8. If in doubt refer!

Diagram 1: Schematic for management of facial pain



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