

TEMPOROMANDIBULAR JOINT DYSFUNCTION SYNDROME

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The diagnosis and treatment of patients suffering from the temporomandibular joint dysfunction syndrome (TMJ), also known as facial arthromyalgia or myofascial pain dysfunction syndrome, occupies a considerable proportion of the time of a consultant in oral and maxillofacial surgery. These patients are referred by both general dental and medical practitioners, consultants in other specialties and Accident and Emergency departments. Although many of these patients are fairly easily treated with a good outcome, a small proportion present major problems in diagnosis and management over a long period of time. Others may present with other orofacial pains and may also have symptoms of migraine, irritable bowel syndrome, neck and back pains, anxiety and stress.

Symptoms may be related to either the TMJ or the muscles of mastication.

HISTORY

There is often a progression of symptoms in the TMJ Syndrome:

1. The joint clicks when the jaw is opened. A closing click may occur. These clicks are common in the general population and often do not progress beyond this stage.
2. After a period of months or years, pain may develop with restriction in movement of the affected joint (locking).
3. Later, as more movement occurs, crepitus is noticed by the patient. Following this stage, resolution often occurs, the whole process taking several years.

The use of video arthrography, MR scanning and arthroscopy, which have been developed over the last few years, has brought a better understanding of the underlying mechanisms involved. Initially the meniscus appears to displace anteriorly and this causes the head of the condyle to catch on the thickened zone of the meniscus and jerks forwards, resulting in a click. Further anterior displacement may then allow the meniscus to lodge in the anterior part of the joint space with resulting restriction of jaw opening. Subsequently the head of the condyle may remodel to allow free movement again.

The cause in many cases is thought to be due to micro trauma as a result of parafunction and bruxism. Acute trauma due to a blow to the jaw or biting on hard food, such as toffee, may precipitate damage resulting in immediate clicking or locking.

Myalgia Pain in the jaw muscles gives symptoms that are similar to those of tension headaches and may have a similar cause. The pains may be confused with those of migraine and

there is some evidence that TMJ problems may precipitate true migraine. The onset of symptoms is often accompanied by bruxism, although the person may not be aware that they are clenching or grinding their teeth, particularly if this occurs at night.

Both TMJ and myalgia are often present together to some degree and this can confuse the picture.

MANAGEMENT

1. Reassurance should be given that the condition is not serious and that most problems will resolve either spontaneously or with non-invasive treatment. The use of the term arthritis should be avoided unless there is evidence that it is present as this can cause anxiety regarding the long term prognosis.
2. Non steroidal anti-inflammatory drugs are useful in the management of pain and tenderness in conjunction with the application of moist heat using a damp towel.
3. Short wave diathermy and ultrasound are given by physiotherapists, either at the hospital or in the community.
4. The patient can be taught jaw exercises which are designed to avoid clicking and locking.
5. The main stay of treatment remains the use of bite-raising splints. They may be worn in the upper or lower jaw, be hard or soft polythene and be used all the time or just at night. They reduce muscle spasm and pain and can cure clicking and locking. When the symptoms resolve the splint is gradually discontinued.
6. Acute pain in the joint is helped by the injection of local anaesthetic and steroids into the joint space. This should not normally be repeated more than once.
7. The recent introduction of arthroscopy using a fine cannula attached to a television monitor has allowed the joint space to be visualised and lavage carried out. The effectiveness of this technique is being assessed in Lancaster.
8. Open surgery is occasionally needed to replace detached menisci or in the treatment of persistent pain. The joint is approached using a pre-auricular incision which produces minimal scarring. The meniscus is freed and the head of the condyle is inspected. If necessary, it is smoothed. The meniscus is repositioned and reattached posteriorly.

Although radiography plays an essential role in the management of this condition, many patients have no bone

changes on Xray, and the routine of irradiation of people on first presentation with symptoms does not seem justified.

For many years controversy has raged over the role played by dental occlusion in the aetiology of this condition. No conclusive evidence has been produced that occlusion is a major causative agent in producing either joint dysfunction or myalgia. Although it seems sensible to put right any tooth loss or cuspal interference, long and expensive restorative work should not be carried out solely in the hope of stopping dysfunction and pain.

Many patients can be effectively treated in general medical and dental practice although dental charges for the provision of bite-raising appliances may be a deterrent. If acute pain or dysfunction cannot be dealt with, then an urgent referral to hospital may occasionally be needed.

FURTHER READING

Solberg William K. Temporomandibular Disorders BDJ 1986.

M Franklin Dolberg, Bruce Sanders. TMJ Internal Derangement and Arthrosis. CV Mosby Co.

Harris M. et al. Temporomandibular joint and orofacial pain: clinical and medicolegal management problems. BDJ 1993; 174(4): 129-36.

Editorial Br J Oral and Max Surg 1993; 31.

QUIZ

1. What is the origin of the word 'orthopaedic'?
2. Who was born on the island of Cos about 460 B.C. and died about 370 B.C. in Thessaly?
3. Where would you find the Cloaca Maxima?
4. Who described the four cardinal signs of inflammation (rubor et tumor cum calor et dolor)?
5. What instrument was first constructed by Galileo (1592), first used in clinical practice by Hermann Boerhaave in Holland (1668 - 1738) and achieved its modern form in 1870?
6. What drug treatment was announced by William Withering in 1785?
7. For what did Alexis St. Martin become famous in 1882?
8. What did the Swiss banker Jean Henri Dunant do that earned him the first Nobel Peace Prize in 1901?
9. Who said in 1854 'In the field of observation, chance only favours prepared minds'?
10. Who received a Nobel Prize for Physics in 1903 and was refused admittance into the French Academy of Sciences?

Answers on page 13.