REHABILITATION OF TEMPOROMANDIBULAR PAIN DYSFUNCTION SYNDROME – A CASE REPORT.

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ABSTRACT

Temporomandibular joint disorders (TMD) are a subgroup of craniofacial pain problems that involve the TMJ, masticatory muscles, and associated head and neck musculoskeletal structures. Causes of TMD include congenital defects and growth abnormalities, arthritic conditions, intra articular soft tissue abnormalities, tumours, trauma, chronic dislocations and infections. For a diagnosis of TMD, patients must have a history of facial pain combined with physical findings, supplemented by radiographic or imaging data when indicated. General management aims at relief of pain and restoration of jaw mobility and impaired chewing function. This includes several options such as occlusal appliances, pharmacotherapy, physical therapy, and behavioural management. The aim of this paper is to document the management of a patient with TMD at the Restorative Dentistry clinic of the Lagos State University Teaching Hospital with a repositioning occlusal appliance.

INTRODUCTION

Temporomandibular joint (TMJ) disorders are a sub-group of craniofacial pain problems that involve the TMJ, masticatory muscles, and associated head and neck musculoskeletal structures.

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The most common sign of temporomandibular joint disorders (TMD) is pain in masticatory muscles or pre-auricular region which becomes severe when chewing or during other mandibular movements.[1] Affected patients have limitation and asymmetry in mandibular movements. They may also complain of headache, earache and pain in the pre-auricular region.[2] While up to 25% of the population may experience symptoms of TMD,[3] only a small percentage of afflicted individuals seek treatment.

Causes of TMD include congenital defects and growth abnormalities, arthritic conditions, intra articular soft tissue abnormalities, tumours, trauma, chronic dislocations and infections. Other predisposing factors are para-functional habits, occlusal instability, midline discrepancy, right – left differences in molar relationship, and inclination of the frontal occlusal plane (FOP).[3] Differences in the heights of the right and left rami, have also been suggested as important skeletal problems associated with TMJ pathology. TMD can be a great source of discomfort and misery for affected patients.

General management of TMD aims at relief of pain and restoration of jaw mobility and impaired chewing function. This includes several options such as behavioural management, pharmacotherapy, physical therapy and occlusal appliances.[4,5] The goal of an occlusal appliance is to provide orthopaedic stability to the TMJ. Occlusal stabilization splints have been proposed as treatment for muscular hyperactivity appearing during periods of stress, with the purpose of reducing or improving symptoms by relaxing the masticatory muscles, eliminating occlusal interferences that damage the temporomandibular joint (TMJ) and taking it to an appropriate orthopaedic relation.[5] These alter the patient's occlusion temporarily and may be used to decrease parafunctional activity.[6] The aim of this paper is to document the management of a patient with TMD at the Restorative Dentistry clinic of the Lagos State University Teaching Hospital with a repositioning occlusal appliance.

CASE REPORT

A 71 year old widower reported at the Restorative Dentistry Clinic of LASUTH with a history of dull pain of 3 weeks duration in the pre-auricular regions. The pain was initiated by a violent scream due to a near invasion of his home by armed robbers. The pain worsened on mastication and on opening wide, was associated with a clicking sound and was not relieved by paracetamol. The patient was a known hypertensive patient who was compliant with his medication. A review of systems revealed no significant findings.

On extra oral examination, he had no obvious facial asymmetry, was not pale, afebrile, neither jaundiced nor cyanosed. TMJ examination revealed a clicking sound associated with pain and mandibular deviation from the midline to the left on opening the mouth. His right and left submandibular lymph nodes were palpable but not tender. On intra oral examination, the patient had a limited mouth opening of 35mm. His oral hygiene was fair and there was gingival recession associated with the molars. He had a complete dentition with occlusal erosion and an Angles class 1 molar relationship with a reverse overjet.

An impression of temporomandibular pain dysfunction syndrome was made. A full blood count investigation had values within the normal limit while an orthopanthomogram showed anterior disc displacement without reduction of TMJ. Temporomandibular joint radiographic views in open and closed positions showed degeneration of the cartilage of the TMJ, thus confirming the diagnosis. Pre-treatment clinical photographs and study models were then obtained.

He was educated and counselled to avoid chewing any hard food and placed on a soft diet. He was also advised to rest the masticatory muscles, avoid yawning too wide and to lightly rest his tongue on top of his lower incisors or to deliberately keep his teeth slightly apart. He was placed on Ibuprofen tablets and topical application of olfen gel and also referred to the Physiotherapy clinic for infra-red therapy. A remarkable improvement was observed after a few weeks with the pain subsiding but the clicking sound was still present whenever he opened his mouth wide.

Occlusal management was then done by the fabrication of a repositioning occlusal appliance with clear acrylic splint of 1mm thickness. The patient was instructed to wear the splint at night to control parafunctional motor habits like clenching. He was reviewed a week later and subsequently recalled monthly for 3 visits. After 3 months, his mouth opening has increased to 38mm and the pain had subsided with only a slight clicking sound and he was more relaxed. Continuous review was then recommended.

I) Angles class 1 molar relationship with reverse Overjet.

ii) Maxillary occlusal splint in-situ.

DISCUSSION

For a diagnosis of TMD, patients must have a history of facial pain with characteristic physical findings, supplemented by radiographic or imaging data when indicated.[7] A physical exam, diagnostic radiograph, arthrography, or other advanced imaging modalities may indicate an intra-articular cause of TMJ pathology. The treatment of TMD could be by reversible or irreversible modalities. Reversible therapies are of a non-surgical nature and may include patient education,[8] physical therapy such as jaw exercises or transcutaneous electrical nerve stimulation

(TENS),[9] and behavioral therapy such as voluntary avoidance of stressors.[10] Other reversibile modalities are prescription medication (non-steroidal anti-inflammatory drugs, anxiolytic agents and muscle relaxers) [11] and occlusal splints. An occlusal splint is a removable artificial occlusal surface used for diagnosis or therapy affecting the relationship of the mandible to the maxillae. It may be used for occlusal stabilization, for treatment of TMJ disorders, or to prevent wear of the dentition.

The 2 two major types of occlusal splints are repositioning and stabilization appliances. The repositioning appliance is used to decrease pain, clicking and secondary muscular symptoms, while the stabilisation appliance is mainly indicated for muscular relaxation and protection of teeth. The efficacy of occlusal appliances is based on the reduction of the electro-myographic activity and in modification of the para-functional behaviour.[12] Occlusal splints are relatively simple, reversible in effect, non-invasive and costs less than other treatments. They can be made for maxillary arches and are easily constructed and often inserted immediately at the initial examination.[13] They are associated with progressive decrease in pain, muscle tenderness, TMJ clicking and significant improvement in mouth opening.[14] The soft, resilient material also helps to distributes the heavy load that occurs during para-functional activity. A high degree of patient acceptance has been reported with occlusal splints.[15]

Irreversible therapies that could be used include occlusal adjustment, mandibular repositioning, orthodontic treatment and surgical intervention. There must however be the failure of at least two non-surgical modalities before consideration of surgery.

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