

Student's Section

PARAFUNCTIONAL HABITS ITS MANIFESTATIONS AND MANAGEMENT

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There are 2 major categories of activity of the somato-gnathic system : Normal function and Parafunction.

Parafunctions are not homeostatic. They are performed on a subconscious level and have a tendency to be prolonged for many hours during sleep or even during waking hours when the conscious attention of the patient is directed elsewhere.

Thus parafunctions are often injurious, even under normal occlusal and periodontal conditions.

Five categories of parafunctional activity have been identified :

1. Psychically motivated-where parafunction is of a neurotic nature. eg. Bruxism.
2. Stress motivated-representing exaggerated response to stress of a concentration often seen during athletic activities.
3. Habitual-associated with one's trade or profession.
4. Endogenous-arising from systemic diseases such as epilepsy, tetanus meningitis.
5. Excessively compensating and involuntary reactions to occlusal interferences.

Other common parafunctions such as biting the tongue, cheek, lip, fingernails, pencils, bobby-pins and pipe stems have a definite psychogenic basis. They are related to bruxism.

ETIOLOGY OF BRUXISM

The concepts of etiology of bruxism are still widely divergent and controversial. They can be considered under 3 schools of thought:

1. Mechanical
2. Psychosomatic
3. Combination of the above

The mechanical concept considers all causes to be determined by occlusal disturbances like centric prematurities and cuspal interferences. The other factors are malocclusion, missing teeth, faulty restorations and development of uneven wear patterns and habits. The psychosomatic view notes emotional factors like repressed aggression, emotional tension anxiety anger and fear which may increase muscular tension in the masticatory system.

MANIFESTATION OF BRUXISM

Manifestation of bruxism differs with the habit- Clenching or Grinding.

Clenching : also referred to as centric bruxism is repeatative prolonged forceful contact of the teeth with no or extremely minimal mandibular movement.

The most serious results of clenching are primarily pathologic changes of the pdl supporting structures and secondary disturbances of the TMJ.

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Grinding : also referred to as eccentric bruxism, maybe limited to a single pair of teeth or may involve segments of the dentition. The muscle contraction is isotonic because of the mandibular movement.

SIGNS AND SYMPTOMS

Manifestations of bruxism are seen in the following tissues:

TEETH : Localised and generalised abrasion.

- Bruxofacets.
- Ragged incisal edges.
- Fracture of teeth and restorations.
- Pathologic mobility.
- Pulpal deaths, apical radiolucencies.

PERIODONTAL TISSUES

- Widening of periodontal ligament space.
- Destruction of alveolar bone.
- Cemental tears, hypercementosis, root resorption.
- Alveolar exostoses, buttressing bone formation.
- The buttressing bone formation takes place if the occlusal stress is compensated for an increased trabecular pattern of bones.

MASTICATORY MUSCLES

- Spasm, trismus, myositis due to long standing isometric contractions of the muscles causing ischaemia
- Subjective symptoms are muscular fatigue, tension and pain

TMJ

Clickings, subluxations and even true luxa-

tions due to disturbed coordination of the muscles. There may also be referred pain from the muscles. Adjoining muscle groups in the neck and shoulder may show reactive tension and pain.

RECOGNITION OF BRUXISM

The clinician notes the following prominent signs in the patient.

Prominent masseters-where patients appear to have square faces

Tense taut orofacial muscles-are inelastic and not easily stretched

Depressed natural posterior teeth-posterior teeth appear unduly short, considerably below the average occlusal plane.

MANAGEMENT OF BRUXISM

There are four objectives in the management of bruxism.

1. Inform the patient and reduce psychic tension.
2. Treat the signs and symptoms.
3. Minimise occlusal irritation.
4. Break neuromuscular habit patterns.

REDUCING PSYCHIC TENSIONS

1. A therapeutic doctor patient relationship is essential in beginning therapy.
2. The first greeting and exchange of words can quickly lead to an atmosphere of trust and confidence.
3. Comprehensive information about the patient's signs and symptoms and history can hit at the possible causes of bruxism.
4. A listening ear is in itself therapeutic in reducing anxiety.
5. Auto-suggestion and hypnosis are excel-

lent tools.

TREAT SIGNS AND SYMPTOMS

Here our goals are patient comfort with alleviation of pain. Patient is made to sleep on his back to avoid stretching of the oro-facial muscles.

Wet heat packs and a soft diet are recommended.

Analgesics and muscle relaxants are beneficial for pain and muscle spasms.

MINIMISE OCCLUSAL IRRITATION

1. *Occlusal adjustment* : Elimination of close cuspal confinement lessens the desire to brux. Such occlusal adjustment free the locked bite and provides freedom of access to centric occlusion.
2. *Splint therapy* : (a) To alter occlusal forces, (b) Prevent wear and mobility of teeth, (c) Reduce bruxism.

Treat masticatory muscle pains and dysfunction. Alter structural relationships of the TMJ.

The two appliances used are :

1. Palatal Bite-plate, 2. Night guard.

PALATAL BITE PLATE

This has a thickened cuspid to cuspid horizontal plane permitting only the lower anteriors to touch and thus relies on proprioception to prevent any forceful muscle action. This appliance is worn day and night or both during the periods that bruxing takes place. It is discontinued after recovery of pdl tissues. But it is resumed on a part-time or a full-time basis on resumption of parafunctional activities.

BITE GUARD

There are two kinds of bite guards-hard and

soft.

They are indicated only for night-time wear. Soft acrylic splints give a splinting action for mobile teeth and give comfort to bruxers.

While constructing the bite guard, care must be taken not to increase the vertical dimension of occlusion.

Nowadays bio-feedback mechanism and transcutaneous electrical nerve stimulation is also used to help in management of bruxism.

Finally in worn or mutilated dentition, it is advisable to restore the entire occlusion. In addition to treatment of bruxism per se, following modifications are necessary during any treatment plan for optimum patient and dentist satisfaction:

1. Fillings are kept below occlusal level to avoid fracture or restoration.
2. Extensive FPDs are avoided : Acrylic prosthesis are given opposing porcelain prosthesis to facilitate wearing away of acrylic and preventing fracture of porcelain.
3. The patient may have to wear a protective acrylic resin night guard to protect his corrected occlusion.

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REFERENCES

1. Donald BM. A review of Psychogenic aspects and Treatment of Bruxism: *Journal of Prosthetic Dentistry* 1977; 37 : 411.
2. Fermin AC. The role of Morphofunctional occlusal factors in Periodontal disease. *Clinical Periodontology* 464.
3. Irving MS. Treatment of Bruxism. *DCNA* March 1960; 207.
4. Jeffery PO. The effects of hard & soft occlusal splints on nocturnal bruxism. *JADA* 1987; 114 : 788.
5. Samuel CN. The effects of Bruxism. *JP* 1966; 37 : 311.