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Bruxism

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Parafunctional activity involved with clenching/grinding teeth is termed Bruxism. There are two recognised types including awake bruxism and sleep bruxism. Awake bruxism is more common in female, whereas male and female are equally affected by sleep bruxism.[1]

Awake bruxism (AB) is suggested to be due to habit or emotions such as anxiety, stress, anger, frustration or tension[2] whereas Sleep bruxism (SB) is suggested to be controlled by the sleep centre and is multifactorial (and these may be associations with sleep-arousal, respiratory factors, genetic factors and autonomic sympathetic cardiac factors).[3,4] SB is considered as a sleep related movement disorder characterised by rhythmic jaw muscle contractions with tooth-grinding or clenching sounds.[4]

AB is common, and people are probably not aware that they are "doing" it. In a Dutch adolescent study, 5.0% of the population was found for AB and of 16.5% for SB.[5] It is thought that AB is stress related and this may be simple daily stress that most of us undergo to a more complex stress problem. Management is therefore recognising this habit and providing techniques to reverse the habit. Depending on the severity this could involve simple cognition to more interventional such as the use of an oral appliance as well as hypnosis and biofeedback machines.[6]

The management of SB involves the assessment of possible underlying multi-factorial mechanisms and providing pathways for resolving these. Based on the international classification of sleep bruxism (ICSD-3) the following criteria are required.

1. Presence of either abnormal tooth wear or reports of tooth grinding.
2. Transient pain in the muscles of mastication especially in the morning and associated temporal headaches of locking of the jaws.
3. Presence of tooth grinding sounds occurring during sleep.

It should be noted that SB could be exacerbated in certain medical conditions (movement disorders such as dystonia, restless leg syndrome), medications (selective serotonin reuptake inhibitors), alcohol, smoking, caffeine, obstructive sleep apnea, psychiatric disorders (anxiety and depression), and illicit drugs (cocaine and amphetamines).

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SB is suggested to be cyclical therefore observing abnormal tooth wear clinically does not indicate if patient is currently active in bruxism. The same could be said for the reliability of sleep partner evidence as this is not totally reliable. Clenching may clinically show scalloped margins of the tongue but not tooth wear. The diagnosis of sleep bruxism may be made via patient history and examination, recording of masticatory muscle activity by electromyography, polysomnography, and intraoral appliances.[7]

Management:

Objectives are towards reduction of pain if any and prevention of damage. AB may involve reduction of anxiety, stress techniques. Relaxation, meditation, hypnotherapy, Biofeedback.

With SB: avoid risk factors or reduce them, behavioural intervention (biofeedback, relaxation and improvement of sleep hygiene), and meditation.[8] Oral appliances can certainly reduce tooth damage effect and may also help with SB.

Benzodiazepines, anticonvulsants, beta-blockers, serotonergic and dopaminergic agents, antidepressants, muscle relaxants have been used in the SB, but there is insufficient evidence to support the use of these medications.[9] Administration of botulinum toxin to the masticatory muscles might reduce the frequency of bruxism, however, the long term outcomes remain unknown.[10]

Clinical photograph indicated scalloping of the lateral margins of the tongue and also abnormal tooth wear (Tooth 47) indicating a history of bruxism. This may not necessarily be current.

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