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Sleep bruxism: the complexity of a definitive diagnosis – case report

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ABSTRACT

Introduction: Bruxism is defined as a repetitive jaw-muscle activity characterised by clenching or grinding of the teeth and/or by bracing or thrusting of the mandible [1]. Its effects can be deleterious to the oral tissues and restorations, which highlights the importance of insight towards the fundamental aspects of occlusion in each patient. Dentists should therefore study and examine the individual occlusal schemes in order to plan and treat these patients [2].

Materials and methods: Patient, male, 22 years old, with tooth wear compatible with bruxism. The diagnosis was made based on a multiple level of sensibility determined by the 2018 Bruxism Consensus of possible, probable or definitive diagnosis of bruxism. We applied a specific sleep bruxism questionnaire [3] plus a clinical examination and questionnaire about clinical signs and symptoms based on the Diagnostic Criteria for Temporomandibular Disorders [4]. After we applied an intra oral red coloured device for evaluation of bruxism during sleep for two, Bruxchecker®, and at the same time the patient slept with an electromyography device in the temporal muscle called Grindcare® with recording of audio and video during sleep. All the assumptions of the Helsinki Declaration have been fulfilled and an informed consent for clinical case of Clinica Dentária Egas Moniz approved by the ethic commission of Instituto Universitário Egas Moniz.

Results: We have a positive diagnose for definitive bruxism confirmed with 15.6 grindings/clenching bursts per hour on the first night and 4.7 grindings/clenching bursts per hour on the second night, with audio and video we could have the perception of sounds compatible with problems of the respiratory system but absence of sounds and images compatible with tooth grinding. Clinically signs of tooth attrition were observed as well as tongue and cheek indentations, our patient also answered positively to the specific sleep bruxism questionnaire. The Bruxchecker® was helpful to see the dental wear movements.

Discussion and conclusions: Polysomnography is the gold standard for the diagnosis of sleep bruxism. However, electromyography supplemented with audio and video recordings is increasingly advocated as an equally valid method. The existence of a device like Grindcare® which measures the number of muscles bursts per hour associated with clinical examination allows to give a definitive bruxism diagnosis if used for a determined number of nights. Bruxchecker® and Grindcare® results were somewhat confusing on both nights but this is due to extrinsic factors. The result was a definitive sleep bruxism diagnose according to the last bruxism consensus of 2018.

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Teeth discolouration and prescribed slimming magistral formula: a case report

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ABSTRACT

Introduction: Tooth discolouration is a common subject of aesthetic dissatisfaction for which patients seek dental care [1,2]. Discolouration can be extrinsic (chromogenic agents deposited on the tooth surface – enamel), intrinsic (chromogens deposited within the bulk of the tooth – dentin), and internalised discolouration, a combination of both [1,2]. Different factors can be accountable for dental staining, such as certain medicines, smoking, some foods/beverages (e.g. coffee, tea, wine), poor oral hygiene (e.g. chromogenic bacteria), advancing age, trauma or disease [3]. Medicines known to discolour teeth, especially during tooth development, include antibiotics, antihistamines, antihypertensives, antipsychotics and fluoride [2,3]. Yet, there are numerous drugs with scarce information in literature about its potential for tooth discolouration. To the best of our knowledge this is the first report of a patient's tooth discolouration by staining, suspected to result from a prescribed magistral formula (MF) for weight loss.

Materials and methods: This study details a case of a non-smoking 51-year-old Caucasian woman presenting severely stained teeth and a clinical history of depression and pre-obesity, medicated with escitalopram (20 mg; antidepressant) and loflazepate (2 mg in SOS; anxiolytic). The patient referred taking hard gelatine capsules for weight loss (once daily for 3 weeks), prescribed as a MF; each unit was composed of chlordiazepoxide (8 mg; anxiolytic), phenolphthalein (PhP; 65 mg; laxative), furosemide (20 mg; diuretic), metformine (280 mg; antidiabetic), bupropion (120 mg; antidepressant), artichoke extract (110 mg; allegedly choleric and diuretic), *Citrus aurantium* extract (150 mg; claimed stimulant and thermogenic). Written consent for data use was obtained from the patient.

Results: Several teeth presented discolouration by staining as dark brown spots, which together with the clinical history, allowed the establishment of aetiology and selection of treatment. The dental cleaning procedure (with ultrasound and final polishing with a zirconium silicate particles-based prophylaxis paste, without fluoride) was effective. Slimming MF was discontinued and staining did not reappear (up to 3 months), even though the patient maintained her other habits. Neither drugs, nor botanicals, in the patient's MF were identified in literature as tooth stain-causing molecules.

Discussion and conclusions: The colour and type of staining is consistent with deposition of chromogens in tooth crests. Xerostomia, a common side-effect of the antidepressants, may have potentiated the chromogens' deposition, although the medicine did not enter in close contact with teeth. A systemic manifestation of the drug, as a result of a combination of intrinsic and extrinsic factors, is also possible. Stains may have originated from tainted plant extracts (containing tannins or uncontrolled/unlabeled heavy metals – Fe, Cu, Cd, Sn – due to phytogeography; contaminants) or PhP (an acid–base titration reagent, changing colour according to pH), here used as a stimulant laxative, withdrawn from medicines in many European countries due to its carcinogenic potential. The hypotheses raised warrant further investigation and clarification of the role of drugs/botanicals and contaminants in tooth staining.

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