INPLASY PROTOCOL

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Review Stage at time of this submission: Formal screening of search results against eligibility criteria.

Conflicts of interest:
None declared.

Is bruxism a risk factor for non-carious cervical lesions?

Calmon, K[1]; Foscaldo, T[2]; Vieira, L[3]; Perez, C[4]; Senna, P[5]; Santos, APP[6].

Review question / Objective: Do patients with bruxism have a higher risk of developing non-carious cervical lesions than patients who do not have bruxism? Thus, the PECOs approach is: (P) Population/problem: Patients from 13 years old; (E) Exposition: bruxism; (C) Comparison: Patients without bruxism; (O) Outcome: non-carious cervical lesions; (S) Study Type: Observational studies (Cohort, Case Control and Cross-Sectional).

Condition being studied: The term "non-carious cervical lesion" has been used to describe cervical tooth wear created through different processes that are not associated with dental caries. Bruxism is a repetitive masticatory muscle activity characterized by clenching or grinding of the teeth and/or by bracing or thrusting of the mandible.

INTRODUCTION

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Rationale: Although bruxism is commonly associated with dental wear, there is no scientific consensus that bruxism alone can be considered an etiological factor of

non-carious cervical lesions. In the last two decades, some studies have found a positive association between this type of lesions and occlusal forces and bruxism. However, there are still some studies that report contradictory or inconclusive results. Therefore, we aim to search on the literature all the clinical studies that evaluated the presence of non-carious cervical lesions in patients with bruxism.

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METHODS

Search strategy: An electronic search will be independently conducted to identify potential studies. The following databases will be screened: MEDLINE/PubMed, EMBASE, Web of Science, LILACS and BBO/Virtual Health Library, and the grey literature (Open Grey). A combination of MeSH/DECs, synonyms, and free terms with the Boolean operators OR and AND will be used as follows: ((tooth erosion[MeSH Terms]) OR (tooth abrasion[MeSH Terms])) OR (tooth wear[MeSH Terms])) OR (tooth attrition[MeSH Terms])) OR (tooth erosion[Title/Abstract])) OR (dental erosion[Title/Abstract])) OR (tooth abrasion[Title/Abstract])) OR (dental abrasion[Title/Abstract])) OR (abfraction[Title/Abstract])) OR (abfraction-like[Title/Abstract])) OR (dental cervical lesions[Title/Abstract])) OR (worn dentition[Title/Abstract])) OR (tooth surface lesions[Title/Abstract])) OR (tooth loss defects[Title/Abstract])) OR (tooth wear[Title/Abstract])) OR (noncarious cervical[Title/Abstract])) OR (non carious cervical[Title/Abstract])) OR (non-carious cervical[Title/Abstract])) OR (tooth surface loss[Title/Abstract])) OR (tooth loss defects[Title/Abstract])) OR (tooth tissue loss[Title/Abstract])) OR (occlusal wear[Title/Abstract])) OR (dental wear[Title/Abstract])) OR (NCCL*[Title/Abstract])) OR (tooth attrition[Title/Abstract])) OR (dental attrition[Title/Abstract])) AND (((((((((((((bruxism[MeSH Terms]) OR (sleep bruxism[MeSH Terms])) OR (bruxism[Title/Abstract])) OR (sleep bruxism[Title/Abstract])) OR (occlusal splint*[Title/Abstract])) OR (teeth grinding disorder*[Title/Abstract])) OR (bruxomania[Title/Abstract])) OR (oral parafunction*[Title/Abstract])) OR (parafunctional activit*[Title/Abstract])) OR (parafunctional habit*[Title/Abstract])) OR (sleep disorder*[Title/Abstract])).

Participant or population: Patients from 13 years old.

Intervention: Bruxism.

Comparator: Patients without bruxism.

Study designs to be included: Observational studies (cross-sectional, cohort and case-control)

Eligibility criteria: Observational studies that evaluated the presence of non-carious cervical lesions and bruxism in patients from 13 years old.

Information sources: We aim to search on electronic databases (MEDLINE/PubMed, EMBASE, Web of Science, LILACS and BBO/Virtual Health Library), grey literature (Open Grey), studies registers (PROSPERO, INPLASY), conference papers (International Association for Dental Research - IADR), and to perform a direct search in references of selected articles.

Main outcome(s): The presence of non-carious cervical lesions, irrespective of the diagnostic criteria used.

Data management: We will manage records with the Mendeley Reference Management Software. The studies selection and extraction of data will be performed by two independent reviewers, KC and TF. Any disagreement will be resolved, if necessary, by a third author (LC).

Quality assessment / Risk of bias analysis: For the quality assessment we will use The Joanna Briggs Institute tools (JBI).

Strategy of data synthesis: Grouping data will be based on study design, population characteristics and studies' risk measures (relative risk and odds ratio). Descriptive summaries of studies will be entered into tables and a narrative synthesis of evidence will be performed. A summary measure will be calculated using a random-effects model. Meta-analysis will not be conducted if clinical heterogeneity is high.

Subgroup analysis: If data permits, we will perform a subgroup analysis: sleep bruxism x awake bruxism.

Sensitivity analysis: If sufficient available data are extracted, we will conduct sensitivity analysis to check the stability for the outcome results by excluding studies with high risk of bias.

Language: No language limits will be imposed on the search.

Country(ies) involved: Brazil.

Keywords: systematic review, bruxism, tooth wear, tooth abrasion.

Contributions of each author:
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Author 3 - Lanna Vieira - Project, search strategy, study selection, data extraction, description of results, and article writing.
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Author 5 - Plinio Senna - Project, search strategy, description of results, data analysis, reviewing the article.
Author 6 - Ana Paula Pires dos Santos - Project, data extraction, description of results, article writing, and reviewing the article.