INPLASY PROTOCOL

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Corresponding author:
Mario Dioguardi

mario.dioguardi@unifg.it

Author Affiliation:
University of Foggia

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None declared.

Post-Extraction Complications in Patients Undergoing Oral Bisphosphonate Therapy

Dioguardi, M[1].

Review question / Objective: **What are the risk factors that, in patients receiving oral bisphosphonates, influence the onset of post-extraction complications? How often do post-extraction complications occur in these patients?**
Condition being studied: **Dental extractions and dentoalveolar surgical procedures in patients undergoing therapy with bisphosphonates and anti-resorption drugs are of great clinical importance in the field of dentistry as well as in that of maxillofacial and oral surgery. On the basis of clinical and epidemiological data, dental extractions often precede the manifestation of osteonecrosis: for this reason, they are called "trigger events". Dental extractions and dentoalveolar surgical procedures have been considered as a risk factor for the occurrence of BRONJ.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 November 2022 and was last updated on 08 November 2022 (registration number INPLASY2022110035).

INTRODUCTION

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Condition being studied: **Dental extractions and dentoalveolar surgical procedures in patients undergoing therapy with bisphosphonates and anti-resorption drugs are of great clinical importance in the field of dentistry as well as in that of maxillofacial and oral surgery. On the basis of clinical and epidemiological data, dental extractions often precede the manifestation of osteonecrosis: for this reason, they are called "trigger events". Dental extractions and dentoalveolar surgical procedures have been considered as a risk factor for the occurrence of BRONJ.**

METHODS

Participant or population: Patients who have had an extraction and received oral bisphosphonate terapy.

Intervention: Extraction of dental elements in patients on oral bisphosphonate therapy.

Comparator: Patients not taking oral bisphosphonates

Study designs to be included: Retrospective studies, prospective studies, observational studies, case report and RTC.

Eligibility criteria: In order to assess the suitability of the studies, all titles and abstracts of the publications generated by the research were consulted. The full text of the articles was retrieved in studies that appeared to meet the screening criteria and in studies in which the title and abstract did not give sufficient information to firmly decide whether to include the study or not. The inclusion and exclusion criteria were decided before proceeding to the re-search and selection phase, in fact all studies evaluating complications from oral bisphosphonates in patients who had undergone tooth extraction were included. The selected studies included retrospective, prospective, case report, and evaluating osteonecrosis of the jaws in patients treated with oral bisphosphonates, duration of therapy, indication for prescribing bisphosphonates, sex and age of patients, co-morbidities and possible therapies. associated pharmacological, risk factors and prevalence of complications. All articles concerning studies on animal models, articles that do not consider oral bisphosphonates and those that do not provide sufficient data relating to the clinical cases analyzed were excluded from the search.

Information sources: A systematic search was conducted in the PubMed, Scopus and Cochrane library da-tabases to identify publications suitable for inclusion in the study, using the following keywords: "oral bisphosphonates AND tooth extraction", " third molar extraction AND oral bisphosphonates "; The search for publications relating to complications related to the extraction of specific teeth (as in the case of the 3rd molar) did not provide a sufficient amount of data; as a complement to this research, we conducted a manual evaluation of the articles included in the bibliographic references of other sources, selecting the citations considered relevant. In addition, a search was conducted in the gray literature sources specifically on Google Scholar, Science Direct and on OPENGREY.EU - Gray Literature Database (DANS EASY Archive) in order to reduce and minimize Publication Bias.

Main outcome(s): Incidence of jaws complications, Frequency of complications.

Quality assessment / Risk of bias analysis: ROBINS-I.

Strategy of data synthesis: For each study, the data relating to the 1st author, the year of publication, the study design, the sex and age of the patients, the number of post-extraction sites and the anatomical site of the extraction were selected, the name of the oral bisphosphonates used, the period of therapy, any other drugs taken by the patient, the presence of comorbidities and any systemic risk factors.
The data were extracted and reported in tables independently by the 2 reviewers and subsequently compared to reduce the risk of heroin in reporting the data. The extraction of these data shows the data relating to the frequency of complications in relation to the distribution of the variables considered.

Subgroup analysis: Not applicable.

Sensitivity analysis: Not applicable.

Country(ies) involved: Italy.

Keywords: Oral Bisphosphonate.

Contributions of each author:
Author 1 - Mario Dioguardi.
Email: mario.dioguardi@unifg.it