

INPLASY

A meta-review of interventional procedures for lingual and inferior dental alveolar nerve repair: a qualitative and quantitative analysis

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ADMINISTRATIVE INFORMATION

Support - No financial support.

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

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 June 2024 and was last updated on 19 June 2024.

INTRODUCTION

Review question / Objective The aim of this meta review is to assess the available evidence regarding the role of interventional nerve repair in case of inferior dental nerve (IDN) and lingual nerve (LN) injury based on secondary type of research (systematic reviews and meta-analysis).

Rationale The trigeminal nerve arises with a larger sensory root and a smaller motor root from the ventral surface of the pons. This nerve is one of the largest nerve in the body and is divided in three branches:

- The first division, the ophthalmic division,
- The second division, the maxillary division,
- The third division, the mandibular division.

Injury to the peripheral branches of the trigeminal nerve, especially the lingual nerve (LN) and inferior alveolar nerve (IAN), has been well documented in

the literature. A variety of methods have been utilised to effect repair this latter together with the lingual nerve : end–end anastomosis, autograft or, more recently, nerve allograft. However no consensus among researchers have been reached on the most validated procedure. Hence, the purpose of this study is to assess the the highest level of evidence present in the current literature and provide guidance on the management of iatrogenic lesions of LN and IAN and their outcomes.

Condition being studied Interventional Repair of the Lingual Nerve (LN) and Inferior Alveolar Nerve (IAN).

METHODS

Search strategy Focused question based on PICOS strategy: What Is the current state of evidence related to interventional strategy of lingual and inferior nerve repair?

Participant or population - Population (P): any (no limits of age) patients with IDN and LN injury.

Intervention - Interventions (I): any type of Interventional/microsurgical repair.

Comparator - Comparison (C): any type.

Study designs to be included Systematic reviews and Meta-analysis.

Eligibility criteria Any type of systematic reviews and meta-analyses studies since 1980. No language or age restrictions should be imposed to the search.

Information sources Pubmed, AMED, EMBASE, Web of Science, ScienceDirect, PROSPERO.

Main outcome(s) Evaluate and assess the current state of knowledge regarding the role of interventional nerve repair in case of IDN and LN injury and their relative success rate, as well as the trends (number of SR and MA) per year.

Quality assessment / Risk of bias analysis All the included studies will be evaluated for risk of bias according AMSTAR 2 and CERQual evaluating tools.

Strategy of data synthesis This systematic review will not adopt any restrictions on minimum number of studies or heterogeneity of the studies. Following a comprehensive screening to determine eligible studies, all selected papers will be carefully read to identify study and patient characteristics. Data will be extracted from each study and analysed. This will be done independently by two authors. Where pooling of results is inappropriate, the results will be reported as narrative descriptions using a detailed commentary.

Subgroup analysis All participants will be included in the final analysis. If data permits, a subgroup analysis will be included in this review.

Sensitivity analysis If sufficient data are extracted, a sensitivity analysis will be conducted to check the stability of the outcome results by excluding low methodological quality or high risk of bias studies.

Language restriction No restriction.

Country(ies) involved United Kingdom.

Keywords Trigeminal Nerve, Lingual Nerve, Inferior Alveolar Nerve, Repair, Intervention, Systematic Reviews, Meta-analysis.

Contributions of each author

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