

INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Does DAM reduces systolic and diastolic blood pressure during night and daytime in patients with OAS?

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Review question / Objective: The objective of this review with meta-analysis is to evaluate the efficacy of mandibular advancement devices (MAD) in reducing systolic and diastolic blood pressure both during the day and at night in patients with obstructive sleep apnea (OSA).

Condition being studied: Obstructive sleep apnea is a disease characterized by the total or partial cessation of airflow during sleep. This is caused by the collapse of the soft tissues of the airway when the parasympathetic system is activated.

Information sources: Electronic Databases and grey literature.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 July 2022 and was last updated on 05 July 2022 (registration number INPLASY202270018).

INTRODUCTION

Review question / Objective: The objective of this review with meta-analysis is to evaluate the efficacy of mandibular advancement devices (MAD) in reducing systolic and diastolic blood pressure both during the day and at night in patients with obstructive sleep apnea (OSA).

Rationale: It has been shown in previous meta-analyses that CPAP (continuous positive airway pressure), a device used for the treatment of OAS, produces a decrease in blood pressure in patients with OAS. However, this device is not comfortable for many patients so they do not adhere to it. Therefore, it would be interesting if a more comfortable and accessible device (MAD)

produced the same therapeutic effects in patients with OAS and hypertension.

Condition being studied: Obstructive sleep apnea is a disease characterized by the total or partial cessation of airflow during sleep. This is caused by the collapse of the soft tissues of the airway when the parasympathetic system is activated.

METHODS

Search strategy: PubMed, Cochrane, SCOPUS, Web of sciences.

Participant or population: Patients with obstructive sleep apnea.

Intervention: Mandibular advance device.

Comparator: CPAP.

Study designs to be included: Randomized clinical trials.

Eligibility criteria: Results showed as media and standard deviation numbers.

Information sources: Electronic Databases and grey literature.

Main outcome(s): All the data of the selected studies are included in an excel table to be analyzed by a statistician. At the same time, an analysis of the quality of the articles and the risk of bias should be carried out. Once the entire process has been completed, it will be possible to conclude whether or not the MADs produce a drop in blood pressure with the current data.

Additional outcome(s): As additional outcomes, to evaluate if the decrease in blood pressure is only at night time or is maintained during day time.

Data management: The data has been classified in an excel table and will be entered into a statistical software.

Quality assessment / Risk of bias analysis: It has not be done yet the quality

assessment of the studies included but all are randomized and blinded.

Strategy of data synthesis: Comparative and descriptive statistical analysis.

Subgroup analysis: Not done yet.

Sensitivity analysis: Not done yet.

Country(ies) involved: Spain.

Keywords: OAS, MAD, blood pressure, CPAP, apnea.

Contributions of each author:

Author 1 - Alba Belanche - Author 1 wrote the manuscript, selected the studies, classified the data.

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