INPLASY

The State of Art of Awake Craniotomy in Latin American Countries: A Scoping Review

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Data analysis.

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 26 June 2023 and was last updated on 26 June 2023.

INTRODUCTION

Review question / Objective To explore the state of the art of AC in different Latin-American countries, the availability of information in different languages (English, Spanish, and Portuguese), characteristics of the lesions, the extent of resection, most common complications, and type of anesthesia used. Additionally, we aim to identify key barriers to performing these procedures and explore potential strategies to overcome some of the challenges.

Background Awake craniotomy (AC) is a valuable technique for surgical interventions in eloquent areas, but various challenges hinder its adoption in low-and middle-income countries. These challenges may include limited infrastructure, lack of trained personnel, and inadequate funding.

Rationale in 2015, the Lancet Commission on Global Surgery offered a summary of the surgical burden and limitations in the provision of safe and affordable surgical care worldwide5. Later in 2018, Dewan et al. showed that more than 5 million neurosurgical cases each year were unmet; additionally, Mofatteh et al., in a great effort, highlighted not just the necessity of increasing the adequate resources in low-and middle-income countries in Africa but how these countries despite their limitations, are able to perform awake craniotomies safely.

METHODS

Strategy of data synthesis This scoping review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis-Scoping Review (PRISMA-ScR)7. The relevant articles were searched via PubMed, Scopus, Google Scholar, and Web of Science, with the final date of retrieval on April 15th, 2023. The search was conducted in English, Portuguese, and Spanish.

We did use Boolean terms for Latin America and Latin American countries individually. Additionally, we screened the affiliation of the listed authors for a more comprehensive search strategy. Articles selection was based on where the procedure was conducted and if at least 1 author affiliation was

from a Latin American country. Full-text articles were evaluated to confirm the location and respective affiliations.

Eligibility criteria Articles were included if they met the following criteria: (1) original peer-reviewed articles with a digital objective identifier, (2) English, Spanish, or Portuguese as a primary language, (3) AC used as a neurosurgical procedure in any Latino-American Country, (4) provided sufficient and high-quality data (5) articles involving human subjects only. Exclusion criteria included (1) articles that aggregated AC data on Latino American and non-Latino American countries without differentiating the population and places, (2) studies that investigated neurosurgical interventions other than AC, (3) Articles with insufficient information or lack of quality in the provided analysis, (4) Letters to the editor due to the lack of validation by peer-reviewed or limited information.

Source of evidence screening and selection The initial search was performed by AS and UT, based on the following terms ("awake"[All Fields] OR "awakeness"[All Fields] OR "awakes"[All Fields] OR "awaking"[All Fields]) AND ("craniotomy"[MeSH Terms] OR "craniotomy"[All Fields] OR "craniotomies"[All Fields]) AND ("latin america"[MeSH Terms] OR ("latin"[All Fields] AND "america"[All Fields]) OR "latin america"[All Fields]) ("awake"[All Fields] OR "awakeness"[All Fields] OR "awakes"[All Fields] OR "awaking"[All Fields]) AND ("craniotomy"[MeSH Terms] OR "craniotomy"[All Fields] OR "craniotomies"[All Fields]) AND ("mexico"[MeSH Terms] OR "mexico"[All Fields] OR "mexico"[All Fields] OR "mexicos"[All Fields]). A total of 120 studies were retrieved. LMH and LF performed the first abstract screening, eliminating ten duplicates, 40 studies that appeared incomplete or did not match the inclusion criteria, and ten with poor information. JS, LF, and LM performed the following screening and full-text reading. The extracted data was added to a One Drive document. DG, JAM, and EO performed confirmation of the data.

Data management All documentation was archived under password authorization only Google Drive, and secured by LF.

Language restriction English - Spanish.

Country(ies) involved United States.

Keywords Awake Craniotomy, Global Neurosurgery, Latino America, Low and middle-income countries.

Contributions of each author
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