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INPLASY

Left Atrial Appendage Aneurysm: A Systematic Review of 177 Cases

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Completed but not published.

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 28 July 2024 and was last updated on 28 July 2024.

INTRODUCTION

Review question / Objective This study aimed to conduct a systematic review of the reported cases of Left atrial appendage aneurysms (LAAAs) to explore the baseline characteristics, presentation, preferred diagnostic modalities, and optimal management of LAAA.

Rationale There is little information on the natural course of a Left atrial appendage aneurysms (LAAAs)patients LAA and recommendations for diagnostics as well as efficient treatment techniques in view of its rarity. One systematic review of 82 cases of LAAAs was published in 2014.
Therefore, we have systematically reviewed all the published case reports of LAAAs.

Condition being studied The left atrial appendage (LAA) is a distinct structure with unique developmental and structural characteristics. The LAA is involved in the formation of intra-atrial thrombi, particularly in patients with conditions such as atrial fibrillation and mitral valve disease. Left atrial appendage aneurysms (LAAAs) are rare abnormal dilations of the LAA that may cause hazardous complications. However, there are limited data on the demographic features, clinical characteristics, management modalities, and prognosis of LAAA patients.

METHODS

Search strategy literature search for eligible papers published between January 1940 and November 2022 using MEDLINE/PubMed and Google Scholar as secondary sources.

Participant or population Case report of Left atrial appendage aneurysms (LAAAs).

Intervention Conduct a systematic review of the reported cases of LAAAs.

Comparator None.

Study designs to be included Reported cases of Left atrial appendage aneurysms (LAAAs).

Eligibility criteria The following criteria were used to choose articles: (1) they had case reports of left atrial appendage aneurysms, (2) they contained case series of left atrial appendage aneurysms, and (3) they were published in English exclusively. In vitro research, animal case studies, and non-English literature were all removed.

Information sources Literature search for eligible papers published between January 1940 and November 2022 using MEDLINE/PubMed and Google Scholar as secondary sources.

Main outcome(s) 1) Explore the baseline characteristics, presentation, preferred diagnostic modalities, and optimal management of LAAA.
2) Factors associated with presence of arrhythmia and thrombus in left atrial appendage aneurysm.

Data management For the extracted data, the authors employed a standardized data collection sheet. Two authors extracted the intended data separately, and any disputes were discussed and resolved by a third investigator. The retrieved data includes the following: author list, year of publication, baseline patient information, signs/symptoms, diagnostic procedures, therapies, and procedure outcomes.

Quality assessment / Risk of bias analysis We followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement criteria when conducting this systematic review.
Rayyan AI software was used to remove duplicate articles from the search results. Two independent reviewers used specified eligibility criteria to analyze the retrieved papers. The eligibility screening process was divided into two stages: an initial review of titles and abstracts, followed by a thorough analysis of the whole text.

Strategy of data synthesis IBM SPSS v.21.0 was used to enter and evaluate the data. The continuous variables were correlated using Spearman's rank correlations because the data did not follow a normal distribution mode. Fisher's exact test or Pearson's chi-square were used to compare categorical variables, if applicable. A multivariate logistic regression model was used to generate the odds ratios. Statistical significance was defined as a p-value of < 0.05. Non-quantitative data were qualitatively synthesized.

Subgroup analysis IBM SPSS v.21.0 was used to enter and evaluate the data. The continuous variables were correlated using Spearman's rank correlations because the data did not follow a normal distribution mode. Fisher's exact test or Pearson's chi-square were used to compare categorical variables, if applicable. A multivariate logistic regression model was used to generate the odds ratios. Statistical significance was defined as a p-value of < 0.05. Non-quantitative data were qualitatively synthesized.

Sensitivity analysis None reported.

Language restriction In vitro research, animal case studies, and non-English literature were all removed.

Country(ies) involved An-Najah National University , Nablus, Palestine.

Keywords left atrium; atrial; appendage; atrial appendage; aneurysm; congenital.

Contributions of each author

Author 1 - Yunis Daralammouri - Research idea ; oversaw each stage of the study and provided the required comments; All authors read, reviewed, and approved the final manuscript.
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Author 2 - Anas Odeh - literature review, screening, and data extraction; Write the initial draft of the manuscript; All authors read, reviewed, and approved the final manuscript.
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