

# **ATRIAL FIBRILLATION AND COGNITIVE DECLINE: A RELATIONSHIP BETWEEN UNTREATED AF AND DEMENTIA PROGRESSION, EVALUATING THE ROLE OF DOACS IN THESE CASES.**

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## **RESUMO**

Introduction: Atrial fibrillation (AF) impairs atrial function and cerebral perfusion, contributing to cognitive decline. Untreated AF may accelerate dementia via thromboembolism. Direct oral anticoagulants may reduce this risk. Objectives: Assess the association between untreated AF, dementia, and the role of DOACs. Methods: This is a systematic literature review encompassing articles from 2022 to 2025 from the PubMed (MEDLINE) database. In total, from the 15 previously selected articles, 10 were chosen using the descriptors "Atrial Fibrillation", "Dementia" and "DOACs". Meta-analyses, reviews and systematic reviews in English that related AF, dementia and DOACs were included. Results: Patients with untreated atrial fibrillation (AF) have a higher risk of cognitive decline and dementia progression, possibly related to cerebral microemboli and hypoperfusion resulting from the arrhythmia. Studies demonstrate that the use of direct oral anticoagulants (DOACs) is associated with a decrease in these risks compared to warfarin or the absence of treatment, in addition to preventing thromboembolic events and protecting cognitive function. Genetic factors, such as the APOE ε4 allele, may also influence bleeding events and cognitive decline. Furthermore, adherence to anticoagulation therapy appears to be a key factor in reducing cognitive impairment among AF patients. Individuals consistently treated with DOACs showed a slower rate of cognitive decline compared to those with irregular or no treatment. Additionally, DOACs demonstrated a more favorable safety profile, with lower rates of intracranial hemorrhage, reinforcing their potential benefit in long-term management and prevention of dementia progression. Conclusions: Untreated atrial fibrillation (AF) is associated with an increased risk of cognitive decline and dementia, likely due to cerebral hypoperfusion and thromboembolic events. Direct oral anticoagulants (DOACs) reduce these risks and demonstrate a safer profile, especially regarding intracranial bleeding. Therefore, proper management and adherence to anticoagulation are essential to prevent cardiovascular and cognitive complications.

Palavras-chave: Atrial Fibrillation Cognitive Decline DOACs.