Clinical and Epidemiological Characteristics of Patients with Ischemic Stroke Associated with Atrial Fibrillation at Ibn Rochd University Hospital: A Study of 60 Cases

Abstract

This study aims to describe the clinical and epidemiological characteristics of patients presenting with ischemic stroke associated with atrial fibrillation at Ibn Rochd University Hospital. The study was conducted on 60 patients admitted to the emergency department of Ibn Rochd University Hospital with diagnoses of ischemic stroke and confirmed atrial fibrillation. All patients had confirmed cerebral infarction through brain imaging, primarily located in the middle cerebral artery territory (60%).The observed comorbidity and mortality rates align with other studies, although the rate of thrombolysis administered remains lower than some international standards, likely due to delays in arrival at the emergency department. The results underscore the importance of prevention, early recognition of symptoms, and optimization of therapeutic strategies to reduce mortality and complications associated with ischemic stroke in Morocco.

Keywords: ischemic stroke, cerebral artery territory, brain imaging, atrial fibrillation

Introduction

Ischemic stroke (IS) is a significant medical emergency contributing to high morbidity and mortality rates. Atrial fibrillation (AF) is a critical risk factor for ischemic stroke, as it promotes thrombus formation in the cardiac chambers, which can subsequently migrate to the brain [5-8]. This study aims to describe the clinical and epidemiological characteristics of patients presenting with ischemic stroke associated with atrial fibrillation at Ibn Rochd University Hospital, analyzing 60 cases from the emergency department.

Case presentation

The study was conducted on 60 patients admitted to the emergency department of Ibn Rochd University Hospital with diagnoses of ischemic stroke and confirmed atrial fibrillation. Patients included in the study were over 18 years old with clinical and radiological confirmation of ischemic stroke and atrial fibrillation established by electrocardiogram (ECG). Data collected included demographic information (age, gender), medical history (hypertension, diabetes, dyslipidemia, history of stroke or transient ischemic attack [TIA], antithrombotic treatment), clinical characteristics on admission (type and severity of symptoms, Glasgow score, time to arrival at the emergency department), additional examinations (brain imaging via CT scan or MRI, ECG, echocardiography), and treatment and outcomes (administered treatment such as thrombolysis or anticoagulation, complications, 30-day mortality rate).

Discussion

The average age of the patients was 70 years, with a range from 52 to 89 years. The study population included 35 men (58.3%) and 25 women (41.7%). Among the patients, 42 (70%) had hypertension, 30 (50%) were diabetic, 25 (41.7%) had dyslipidemia, 18 (30%) had a history of stroke or TIA, and 20 (33.3%) were on antithrombotic treatment before admission. Initial symptoms included hemiplegia in 45 patients (75%), aphasia in 30 patients (50%), and consciousness disorders in 20 patients (33.3%). The average Glasgow score on admission was 12/15, with an average time to arrival at the emergency department of 4 hours (range: 1-12 hours). All patients had confirmed cerebral infarction through brain imaging, primarily located in the middle cerebral artery territory (60%). Atrial fibrillation was confirmed by ECG in all patients. Echocardiography revealed left ventricular hypertrophy in 30 patients (50%) and left atrial dilation in 25 patients (41.7%).

The treatments administered included intravenous thrombolysis for 10 patients (16.7%) and anticoagulation (oral or injection) for 45 patients (75%). Complications included intracranial hemorrhage in 3 patients (5%) and nosocomial infections in 10 patients (16.7%). The 30-day mortality rate was 25% (15 patients).

The findings of this study underscore atrial fibrillation as a major risk factor for ischemic stroke. The patients were primarily elderly and had significant comorbidities such as hypertension and diabetes, consistent with existing literature (Chugh et al., 2014; Kirchhof et al., 2016). The observed comorbidity and mortality rates align with other studies, although the rate of thrombolysis administered remains lower than some international standards, likely due to delays in arrival at the emergency department (Emberson et al., 2014). In the Moroccan context, where access to medical care can be delayed, these findings highlight the need for improved rapid response systems and increased awareness to enhance stroke outcomes. Proactive management of pre-existing conditions and rapid recognition of stroke symptoms are essential to improve prognosis. Despite the risk of complications, anticoagulation remains a cornerstone of management to reduce the risk of recurrence (Connolly et al., 2009). Optimizing therapeutic strategies is crucial to minimize complications and mortality associated with ischemic stroke in patients with atrial fibrillation.

Conclusion

This descriptive study on patients with ischemic stroke and atrial fibrillation at Ibn Rochd University Hospital highlights the predominance of cardiovascular risk factors and the necessity for rapid and appropriate management. The results underscore the importance of prevention, early recognition of symptoms, and optimization of therapeutic strategies to reduce mortality and complications associated with ischemic stroke in Morocco.

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