Guidelines

Evaluation of atrial fibrillation management and cardiovascular risk profile in atrial fibrillation patients: A cross-sectional survey

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ABSTRACT

Objective: The aim of this study to investigate the most frequent risk factors of atrial fibrillation (AF), co-morbidities, complications associated with AF and the use of anticoagulants and other medications in patients who were referred to university hospitals in Lithuania.

Materials and methods: This cross-sectional study enrolled consecutive inpatients and outpatients with AF presenting to cardiologists in the two biggest Lithuanian university hospitals from November 2013 to May 2014. AF diagnosis was confirmed by a 12-lead ECG or 24-h Holter with an episode duration of >30 s.

Results: A total number of 575 patients were recruited, and complete data on clinical subtype were available for 515 patients (mean age of 70.7 years; 48.5% of women). Permanent AF was the most frequent type of AF (46.6%). Common comorbidities were hypertension (85.8%), heart failure (77.9%) and coronary artery disease (51.8%). Amiodarone was the most common antiarrhythmic agent used in 14.6% of the patients, while beta-blockers and digoxin were the most often used rate control drugs (59.6% and 10.7%, respectively). Oral anticoagulants were used by 53.3% of the patients; of them, 95.6% used vitamin K antagonists, while non-vitamin K antagonist were used by only 4.4%. The INR within a therapeutic range (2.0–3.0) was documented in 19.2% of the patients. Other antithrombotic drugs such as aspirin and clopidogrel were used in 13.7% and 2.0% of the patients, respectively; dual antiplatelet treatment was administered in 6.2% of the patients. Of the entire cohort, the mean CHA_2DS_2-VASc score was 3.97 ± 1.6 and the mean HAS-BLED score was 2.25 ± 1.0.

Conclusions: Compliance with the treatment guidelines remains suboptimal and further patient education is needed.

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1. Introduction

Atrial fibrillation (AF) is the most common sustained cardiac rhythm disorder in clinical practice [1]. Its prevalence increases with age from 0.1% in people younger than 55 years to more than 9% in 80 years old. More than 6 million Europeans suffer from this arrhythmia [2,3]. The recent projections estimate that the number of adults older than 55 years with AF in the European Union will double from 2010 to 2060 [4].

The social and economic burden of AF is steadily increasing in Western countries [5]. Atrial fibrillation is independently associated with increased risk of a variety of adverse outcomes, including 5-fold risk of stroke, 3-fold incidence of congestive heart failure, and 2-fold risk of death [2,6,7]. Only antithrombotic therapy has been shown to reduce AF-related death [8]. AF-related stroke is often more devastating and results in long-term disability comparing to other stroke etiology [2]. The cardiac failure or dysfunction, hypertension, age ≥ 75 [doubled], diabetes, stroke [doubled]-vascular disease, age 65–74, and sex category [female] (CHA_2DS_2VASc) score is a validated tool to estimate the annual risk of stroke or systemic embolism, ranging from <1% to approximately 20% in the absence of oral anticoagulants [9].

Moreover, AF impairs quality of life and results in significant indirect nonmedical costs due to lost work ability and productivity [10]. With these premises, achieving a definite cure for this arrhythmia is highly desirable, and this would have profound social and economic implications. Therefore, it is important to diagnose AF in time, to control risk factors, prevent complications, and provide adequate treatment.

Recent guidelines on the management of AF have been published and updated by the European Society of Cardiology to facilitate the choice of the treatment strategy [2]. Considering the disease relevance and the need of therapy assessment, we investigated the most frequent AF risk factors, comorbidities, AF-associated complications and the use of anticoagulants and other medications of patients who were referred to the two biggest hospitals in Lithuania.

2. Materials and methods

A cross-sectional study was conducted in two tertiary-care university hospitals in Lithuania (Vilnius University Hospital Santariškių Klinikos and Hospital of Lithuanian University of Health Sciences Kauno Klinikos) between November 2013 and May 2014. The study protocol was approved by the Ethics Committee of Vilnius University Hospital Santariškių Klinikos, and all patients provided written informed consent before enrolment. Consecutive inpatients and outpatients were screened for eligibility on arrival to the hospital. Patients with a diagnosis of AF were included, when the AF episode was present in a 12-lead ECG or episode >30 s in duration was recorded on 24-h Holter. The qualifying episode of AF should have occurred within the last year, before enrolment to the registry. No exclusion criteria were defined in order to minimize selection bias.

2.1. Statistical analysis

Univariate analysis was applied to both continuous and categorical variables. Continuous variables are expressed as a mean (standard deviation). Comparison between groups was made by using the non-parametric Kruskal–Wallis test. Categorical variables are reported in percentages. Comparison between categorical groups was made by using the chi-squared or Fischer exact tests if any expected cell count was <5. For all tests, a P value of less than 0.05 was considered to be significant. Statistical analysis was performed using SPSS 20 software.

3. Results

A total of 575 patients were enrolled, although complete data on the clinical subtype of AF were available for 515 patients (mean age, 70.7 years; mean body mass index, 29.4 kg/m^2; 48.5% were female). As displayed in Table 1, 25.4% of the patients had paroxysmal AF; 25.2%, persistent AF; and 46.6%, permanent AF. 2.7% of the patients had first-time documented AF. There were no significant sex differences comparing the AF subtypes, but patients with paroxysmal AF were younger compared with those with permanent AF (mean age 68 vs. 73 years, $P < 0.05$).

3.1. Associated risk factors, comorbidities and prior interventions

Cardiac risk factors and comorbidities were frequent, irrespective of AF. The most common associated comorbidities were hypertension (85.8%), heart failure (77.9%), and coronary artery disease (CAD) (51.8%) (Table 1). Previous stroke was reported in 19.4% of the whole cohort. Chronic liver or kidney disease was reported in 19.1% (Table 2). Patients with permanent AF more often tended to have had previous embolism, hemorrhagic events, and hypercholesterolemia ($P < 0.05$) comparing with other AF type groups. Pacemaker implantation was performed in 22.4% of the whole group.

3.2. Drug therapy

Patients received therapy that was prescribed by a cardiologist, an internal medicine doctor, or general practitioners. Antithrombotic strategies are summarized in Table 3. Oral anticoagulants (OACs) were used by 53.3% of the patients; vitamin K antagonists (VKAs), most often (95.6%). At the time of inclusion to the survey, anticoagulation therapy in the therapeutic range (international normalized ratio value between 2.0 and 3.0) was documented only in 19.2% of the patients. Non-vitamin K antagonists were used in a minority of patients (dabigatran 2.4%, rivaroxaban 2.0%, and apixaban 0%). Dual antiplatelet therapy was administered to 6.2% of the entire cohort. Aspirin was used in 13.7% and the combination of an OAC and antiplatelet (aspirin or clopidogrel) therapy in 5.4% of the patients. None of the patients received triple therapy.

Amiodarone (14.6%) and propafenone (5.8%) were the most often prescribed antiarrhythmic drugs (AADs) (Table 3). Only 0.5% of the patients used dronedarone. Beta-blockers (59.6%)