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Novel Anticoagulants in Non-Valvular Atrial Fibrillation: An Evidence-Based Analysis

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Introduction

Randomized controlled trials are performed with a highly selected population, with good adherence. In addition, patients with co-morbidities are generally excluded and the study is conducted in a well-controlled environment. On the other hand, evidence-based practice does not occur in optimal condition. The patient population is heterogeneous and their adherence to treatment may be low. This practice represents the "real world". However, evidence-based medicine should use the best current evidence based on systematic research in a conscious and judiciously integrated with clinical expertise [1]. This practice should be aimed at decision-making for individual care of the patient. It is also important to avoid unnecessary diagnostic procedures and treatments, improving the care of patients with rational use of resources. A recent initiative to appropriate decision-making is called "Choosing wisely", which helps to reduce waste in the health system and promotes dialogue between the physician and his patient [2]. These strategies should also be applied when deciding on which anticoagulant for patients with non-valvular atrial fibrillation.

Randomized studies on novel oral anticoagulants (NOACs) have been designed to assess its non-inferiority compared to warfarin for prevention of systemic embolism and stroke [3-6]. They have demonstrated the safety, efficacy, more predictable pharmacological profile, short half-life, fixed-dose use, fewer interactions and no need for laboratory monitoring. The use of anticoagulants is indicated if CHA2DS2-VASc score ≥ 2 or in patients with previous transient ischemic attack or stroke. Dabigatran should not be used by patients with mechanical prosthetic valves. NOACs are not recommended for patients with end-stage chronic kidney disease or on dialysis [7]. Meta-analyzes of more than 72,000 patients have shown that NOACs are as effective (or better) as warfarin to prevent stroke [8]. They result in a lower rate of bleeding, especially in relation to intracranial hemorrhage. The exception is gastrointestinal bleeding, which occurs 25% more frequently than with warfarin. There is a relative risk reduction in death of about 10% with NOACs.

Recently, a first international prospective, observational study was published, including 6784 unselected patients with non-valvular atrial fibrillation in use of NOAC [9]. This study showed lower stroke and bleeding rates in routine clinical practice (real world) than in clinical trials. These results illustrate the evidence-based practice.

Adherence to the guidelines is a feature of impact on patient outcomes. The use of anticoagulants in accordance with the guidelines is associated with significantly better results, including those related to mortality and systemic embolism and the composite endpoint of "cardiovascular death, any bleeding or thromboembolism" [10]. The study included a cohort of 2634 patients. Among patients, 60.6% were treated with adherence to guideline recommendations, 17.3% of patients were under-treated and 21.7% were over-treated. In addition, there is an underutilization of oral anticoagulants, especially in high-risk population, ischemic stroke survivors with atrial fibrillation, with an average age of 78 [11].

Surveys to assess attitude, level of education and knowledge of patients on antithrombotic therapy provide information for a most appropriate approach. A survey in 8 centers in Europe showed that 67% of patients were taking vitamin K antagonists, 33% in use of NOACs and 17.9% in use some anticoagulant associated with an antiplatelet. It was observed that 14.5% of patients temporarily discontinued treatment and 26.5% of patients reported not having taken at least one dose of the drug [12].

The oral anticoagulant instructions for use are already established. However, an analysis of the risk/benefit ratio should be made, including the risk of bleeding [7]. For choice of anticoagulants (vitamin K antagonists or NOAC, type NOAC), several factors must be taken into consideration [13]. Such factors include the age and weight of the patient, renal function, co-morbidities, interactions with other drugs, patient compliance, the cost of therapy. Patient preference is a decisive factor. The dosage regimen may influence its adherence to treatment and its evolution. Thus for a wise choice, dialogue between doctor and patient based on scientific evidences will provide the rational decision making.

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