



SPECIAL ARTICLE

Direct anticoagulants and nursing: An approach from patient's safety[☆]



Adolfo Romero Ruiz^{a,b}, Adolfo Romero-Arana^b, Juan Gómez-Salgado^{c,d,*}

^a Servicio de Hematología y Hemoterapia, Hospital Universitario Virgen de la Victoria, Málaga, Spain

^b Departamento de Enfermería, Universidad de Málaga, Málaga, Spain

^c Departamento de Enfermería, Universidad de Huelva, Huelva, Spain

^d Escola Superior de Saúde, Universidade Atlântica, Lisboa, Portugal

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Abstract In recent years, a new line of treatment for the prevention of stroke in non-valvular atrial fibrillation, the so-called direct anticoagulants or new anticoagulants has appeared. The proper management and follow-up of these patients is essential to minimise their side effects and ensure patient safety.

In this article, a description of these drugs is given, analyzing their characteristics, functioning and interactions together with the most habitual nursing interventions, as well as a reflection on the implications for the practice.

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PALABRAS CLAVE

Fibrilación auricular;
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Anticoagulantes directos y Enfermería: un abordaje desde la seguridad clínica

Resumen En los últimos años ha aparecido una nueva línea de tratamiento para la prevención del ictus en la fibrilación auricular no valvular, los denominados anticoagulantes directos o nuevos anticoagulantes. El adecuado manejo y seguimiento de estos pacientes resulta imprescindible para minimizar sus efectos secundarios y garantizar la seguridad del paciente.

En este artículo, se ofrece una descripción de estos fármacos, analizando sus características, funcionamiento e interacciones junto con las intervenciones enfermeras más habituales, así como una reflexión sobre las implicaciones para la práctica.

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* Corresponding author.

E-mail address: jgsalgad@gmail.com (J. Gómez-Salgado).

Introduction

Atrial fibrillation (AF) is the most common cardiac arrhythmia, with a prevalence of 5% in the Spanish population. Patients with AF are at high risk of embolic events, stroke being the most frequent, associated with incapacity and major dependence, which implies a significant increase in costs and usage of the healthcare system.¹ These patients comprise approximately 60% of the people attended in primary care (PC) or anticoagulation clinics (AC) for monitoring and follow-up.²

The ageing population alone is already using more healthcare resources, both due to the increase in chronic disease and greater life expectancy. In this regard, the ability of these patients to control their symptoms appropriately by good self-care is of particular significance.³ In the case under study, there is a strong relationship between age and the presence of AF, since the incidence is up to four times higher in the over-80 age group than in the younger population.¹

Dicumarinic anticoagulants or Vitamin K antagonists (VKA) are the traditional treatment to prevent a greater risk of stroke with AF. These drugs have been in clinical practice for more than 50 years⁴ and have had no competition until recently when a series of anticoagulants (known colloquially as new oral anticoagulants [NOAC] or direct anticoagulants, [DA]) were authorised for use in AF as long as there are no cardiac valve issues (nonvalvular atrial fibrillation [NVAf]).

The relative novelty of these treatments has flagged up major ignorance in our environment of the drug presentations as well as their indications, contraindications and side effects. Therefore, the objective of this article is to analyse these drugs' features, functioning and interactions, and the most routine nursing interventions for the correct management of patients taking these treatments, and finally to offer a reflection on the implications for clinical practice. Appropriate management is essential, due to the particular characteristics of AF and the special patient features - usually elderly with significant concomitant diseases.¹ This lack of knowledge might compromise patient safety.

Oral anticoagulant treatment

As mentioned above, AF patients have traditionally been treated using dicumarinics or VKA; in our country using the popular Sintrom[®] (acenocoumarol). The anticoagulant effect of this drug is based on interfering in the metabolism of vitamin K, necessary for the manufacture of some coagulation factors (II, VII, IX, X).⁵ In other countries, such as the English-speaking or northern European countries, warfarin is the most-used anticoagulant. The basic difference between the drugs is that warfarin has a much longer half life (31–51 h) than acenocoumarol (8–11 h)⁵ (Fig. 1).

However, some drugs for stroke prophylaxis have recently been given to patients with NVAf, and in some cases for venous thromboembolic episodes. Their recent arrival (the first drugs arrived in 2009) and their different mechanisms have triggered a debate in the scientific community, which for various reasons nurses have not entered or are entering late. This shortcoming might compromise patient safety, due to the balance that must be maintained in these treatments

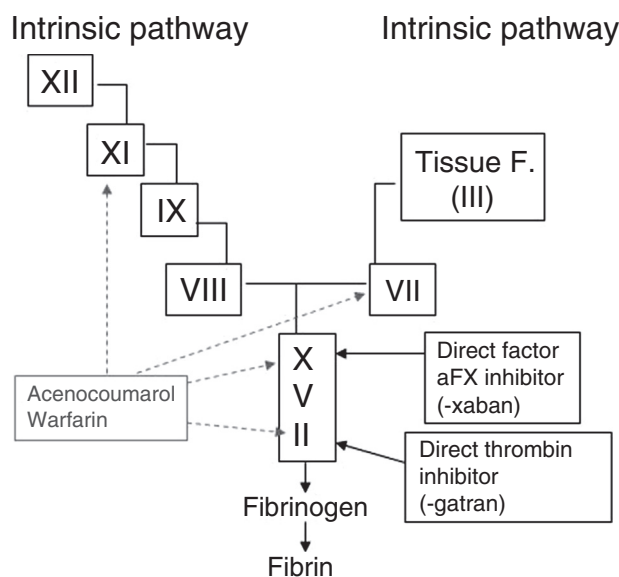


Figure 1 Functional diagram of the different oral anticoagulants.

used for the protective effect of anticoagulation that entail some risk of haemorrhage.

Dicumarinics are monitored therapeutically by determining the International Normalised Ratio (INR). This analytical determination is unique to patients being treated with OCA, but the way it is obtained differs in different countries and even regions. Therefore it is important to consider the analytical (and pre-analytical) quality standards for their use, focussing in particular on the role of the nurse in this environment.⁶

The new anticoagulants

There are currently two large groups of DA: thrombin inhibitors and activated factor X inhibitors (aFX) (Fig. 1).

Thrombin inhibitors: dabigatran etexilate

Dabigatran etexilate is an active prodrug that is converted into its active form in the gastrointestinal tract. It is a direct thrombin inhibitor. It is absorbed rapidly to a maximum concentration 2–4 h after it is taken. It discretely lengthens routine coagulation tests, but the effect is not dose dependent and therefore cannot be monitored using these tests. In fact, the most sensitive tests for the drug are thrombin and ecarin clotting times.^{7,8}

Eighty percent is eliminated through the kidneys, and therefore it is important to bear in mind that it is contraindicated for patients with renal failure.⁷ Its use is authorised in the prevention of stroke in NVAf with one or more risk factors (stroke, transient ischaemic attack or previous systemic embolism, left ventricular ejection fraction <40; congestive heart failure \geq class II of the New York Heart Association); age \geq 75 years; age \geq 65 years with one of the following risk factors: diabetes mellitus, coronary disease or hypertension and in prevention of venous thromboembolic disease in patients who have undergone total knee or hip prostheses,⁷

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