

Predictors of inappropriate dosing of direct oral anticoagulants in nonagenarian patients with atrial fibrillation

P. Dominguez Erquicia¹, S. Raposeiras-Roubin¹, E. Abu-Asi¹, M. Cespon-Fernandez¹, D. Alonso Rodriguez², S.J. Camacho Freire³, N. Curbelos Fernandez², A. Lopez Masjuan Rios³, M. Melendo Viu¹, A. Iniguez Romo¹

¹Hospital Universitario Alvaro Cunqueiro, Vigo, Spain; ²Hospital of Leon (Complejo Asistencial Universitario de Leon), Leon, Spain; ³Hospital Juan Ramon Jimenez, Huelva, Spain

Funding Acknowledgement: Type of funding sources: None.

Background: Direct oral anticoagulants (DOACs) are presented as a good option for older patients owing to their safety profile. However, the dosing can become challenging especially in this population.

Objective: Our aim is to evaluate the predictors of inappropriate dosing of DOACs.

Methods: The authors analyzed the use of DOACs in 726 patients aged ≥ 90 years with a diagnosis of atrial fibrillation (AF) from a retrospective multicenter registry from 3 health areas in Spain. We studied the dosing, differentiating between appropriate dose, underdosing or overdosing. To evaluate the best predictive model, the Akaike information criterion (AIC) was used.

Results: Follow-up was 27.7 ± 18.3 months. Mean age was 93.0 ± 5.2 years, and 60.1% of patients were female. 339 patients received rivaroxaban (47.3%), 237 apixaban (33.1%), 105 dabigatran (14.7%) and 35 edoxaban (4.9%). An important proportion of patients received a suboptimal dose

(41.5%, n=297): 35.3% underdosed and 6.1% overdosed. The rate of sub-optimal dosing was higher for apixaban and lower for dabigatran (Figure 1A). In our registry we found as a predictors of inappropriate dosing: kidney function (Chronic Kidney Disease Epidemiology Collaboration), odds Ratio (OR) 1.04; 95% CI: 1.03–1.05, $P < 0.001$; weight measured in kilograms, OR 1.04; 95% CI: 1.01–1.07, $P = 0.012$; and high blood pressure (HBP), OR 1.61; 95% CI: 1.02–2.53, $P = 0.041$ (Figure 1B). Other variables such as HASBLED, CHADSVASc, anemia, prior bleeding, or concomitant use of antiplatelet therapy, were not significantly associated.

Conclusions: We want to highlight that the use of an inappropriate dose of DOAC in older patients is common, about 40% in our study. Apixaban was the most frequently underdosed DOAC. HBP, weight, and kidney function were associated with an inappropriate dosing prescription. Therefore, it is important to carefully evaluate the characteristics of the patient to prescribe the appropriate dose that guarantees a correct action.

