Factors related to clinically low dose direct oral anticoagulant use in real-world practice

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Introduction: The appropriate dose of direct oral anticoagulants (DOACs) is determined by several patient-specific factors such as the age, renal function, weight, and concurrent medications. However, in clinical practice, physicians sometimes prescribe under-dosed DOACs considering bleeding risks.

Methods: The study population consisted of 877 consecutive patients who were taking DOACs for thromboembolism prevention at our institution. Those receiving the required DOAC dose were classified as an ‘appropriate dose’ and the rest as a ‘clinically adapted dose’. Those requiring standard doses but receiving reduced doses were regarded as a ‘clinically low dose’, and those requiring reduced doses but receiving standard doses were considered as a ‘clinically high dose’.

Result: A total of 877 patients were prescribed DOACs: 134 dabigatran, 181 rivaroxaban, 247 apixaban, and 315 edoxaban. A standard DOAC dose was prescribed in 321 patients (37%) and reduced dose in 556 (63%). A total of 692 patients received appropriate doses (79%) and 185 (21%) clinically adapted doses (clinically low dose, 162 [18%], and clinically high dose, 23 [3%]). In the multivariate analysis comparing appropriate standard dose and clinically low dose group, age, female and Dabigatran use was an independent factor associated with a clinically low dose.

Conclusion: In real-world clinical practice, a considerable number of patients received a clinically low dose of DOACs. Patients’ background and the choice of DOACs were independent factors associated with a clinically low dose.