







Does body mass index influence clinical outcomes in patients with atrial fibrillation who receive direct oral anticoagulant therapy

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Introduction: Randomized controlled trials of direct oral anticoagulant therapy (DOAC) included limited number of obese patients providing uncertainty about their efficacy in this population.¹ Since DOACs are expected to be increasingly used, more information about efficacy and safety, especially among obese patients which might be exposed to suboptimal drug levels, is urgently needed. Therefore, we aimed to investigate in the real-life setting whether DOAC anticoagulated patients with atrial fibrillation stratified according to the different body mass index (BMI) subgroups experience different risks of unwanted outcomes.

Patients and Methods: We retrospectively investigated a real-life cohort of 325 DOAC anticoagulated patients with atrial fibrillation [179 receiving dabigatran (55%), 74 apixaban (23%) and 72 rivaroxaban (22%)]. Patients were stratified according to the body mass index (BMI) into non-obese (233 with BMI <30 kg/m²), class I obesity (71 with BMI 30-34.9 kg/m²) and class II + obesity (21 with BMI ≥35 kg/m²).

Results: Patients with higher BMI receiving DOACs were more likely to experience stroke/systemic embolism sooner (P = 0.043), experience major bleeding sooner (P < 0.001) and have shorter time to composite event consisting of thrombosis, bleeding or death (P < 0.001) whereas there was no significant association with overall survival (P = 0.470). BMI was significantly associated with thrombosis but not bleeding among dabigatran treated patients, and significantly associated with bleeding but not thrombosis among patients treated with factor Xa inhibitors. Associations of higher thrombotic, bleeding and composite endpoint risks with higher BMI remained statistically significant in multivariate Cox regression models adjusted for age, gender, eGFR, CHA₂DS₂VASC and HAS-BLED.

Conclusion: Our findings indicate that obese patients receiving DOACs, especially ones with class II + obesity, might be under higher risks of stroke/bleeding depending on DOAC subtype. Loss of efficacy might be associated with dabigatran, whereas higher risk of major bleeding might be associated with factor Xa inhibitors.

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LITERATURE

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