NON-VITAMIN K ANTAGONIST ORAL ANTICOAGULANTS (NOACS) VERSUS VITAMIN K ANTAGONISTS (VKAS) IN (MORBIDLY) OBESE OR LOW BODY WEIGHT PATIENTS WITH ATRIAL fiBRILLATION: A META-ANALYSIS

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Aims: Guidelines prefer non-vitamin K antagonist oral anticoagulants (NOACs) over vitamin K antagonists (VKA) for thromboembolic prophylaxis in atrial fibrillation (AF). However, as NOACs are administered in fixed doses, concerns of unintentional underdosing in morbidly obese patients and unintentional overdosing in underweight patients have emerged. A critical appraisal of the benefit-risk profile of NOACs in AF patients across the body weight spectrum is needed. Methods: After searching Medline, phase III randomized controlled trials (RCTs) and longitudinal observational cohort studies on the effectiveness and safety of NOACs versus VKAs in obese (BMI ≥30 kg/m²), class III obese (BMI ≥40 kg/m²) and low body weight (≤60 kg) AF patients were included. Meta-analyses were performed using a random effects model with the Mantel-Haenszel method. Results: A meta-analysis based on 4 RCTs and 3 observational cohort studies demonstrated that NOACs in obese and class III obese AF patients were associated with significantly lower stroke/systemic embolism (SE) (RR 0.82, 95%CI [0.71-0.96] and RR 0.75, 95%CI [0.64-0.87] respectively), similar to lower major bleeding (RR 0.83, 95%CI [0.69- 1.00] and RR 0.74, 95%CI [0.57-0.95] respectively) and similar mortality risks (RR 0.92, 95%CI [0.73-1.15] and RR 1.17, 95%CI [0.83-1.64] respectively) compared to VKAs. In AF patients ≤60 kg, significantly lower stroke/SE (RR 0.63, 95%CI [0.56-0.71]) and major bleeding risks (RR 0.71, 95%CI [0.62-0.80]), and similar mortality risks (RR 0.68, 95%CI [0.42-1.10]) were observed for NOAC- versus VKA-treated patients in a meta-analysis based on 4 RCTs and 2 observational cohort studies. Conclusions: The benefit-risk profile of NOACs seems preserved in (morbidly) obese AF patients and patients ≤60 kg.