

# RAISE-ing the Bar: Rivaroxaban’s and Apixaban’s Impact on Safety and Efficacy in the Morbidly Obese



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## INTRODUCTION

- Direct Oral Anticoagulants (DOACs) are preferred therapy over warfarin in DOAC eligible patients for both venous thromboembolism (VTE) and atrial fibrillation (AF)
- Per the International Society of Thrombosis and Hemostasis, DOAC use is not recommended in patients with a BMI >40 kg/m<sup>2</sup> or body weight >120 kg due to limited inclusion of patients with extreme weights in approval studies

## METHODS

- Retrospective study from June 2015 to January 2020
- Compared apixaban and rivaroxaban to warfarin for efficacy and safety. Patients were followed up via electronic chart review for 12 months after index visit

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"><li>• BMI &gt;40 kg/m<sup>2</sup> or body weight &gt;120 kg</li><li>• ICD 10 code for VTE or AF</li><li>• Discharged on warfarin, apixaban, or rivaroxaban on index visit</li></ul>	<ul style="list-style-type: none"><li>• Pregnancy</li><li>• Severe liver disease</li><li>• Prosthetic or mechanical heart valves</li><li>• Contraindicated concomitant medications</li><li>• Age &lt;18 years</li></ul>

Efficacy Endpoints	Safety Endpoints
<u>Primary:</u> occurrence of VTE or stroke	<u>Primary:</u> occurrence of major bleeding
<u>Secondary:</u> time to VTE or stroke	<u>Secondary:</u> occurrence of clinically relevant non-major bleeding (CRNMB), all-cause mortality, and number of hospitalizations.

Morbidly obese patients receiving apixaban or rivaroxaban have similar efficacy and safety parameters compared to warfarin in venous thromboembolism and nonvalvular atrial fibrillation.

## RESULTS

Demographic (n/% or median/IQR)	DOAC (n=165 for VTE, n=55 for AF)	Warfarin (n=127 for VTE, n=252 for AF)	P-value
Sex (male)			
VTE	89 (53.9%)	55 (43.3%)	0.72
AF	41 (74.5%)	147 (58.3%)	0.037
Age (years)			
VTE	54.5 (24)	58 (22)	0.31
AF	66 (13.5)	67 (15)	0.37
BMI (kg/m2)			
VTE	42.5 (8.4)	49.7 (12.8)	<0.0001
AF	41.7 (10.5)	43.6 (8.4)	0.089
Weight (kg)			
VTE	129 (21)	134 (38)	0.0003
AF	132 (22)	130 (33)	0.25

Outcome (n/%)	DOAC (n=165 for VTE, n=55 for AF)	Warfarin (n=127 for VTE, n=252 for AF)	P-value
Incidence of stroke			
AF	0 (0%)	2 (0.8%)	0.69
Incidence of recurrent VTE			
VTE	11 (6.7%)	10 (7.9%)	>0.05
Incidence of major bleeding			
VTE	3 (1.8%)	5 (3.9%)	0.271
AF	0 (0%)	8 (3.2%)	>0.05
Incidence of CRNMB			
VTE	2 (1.2%)	7 (5.5%)	0.077
AF	1 (1.8%)	26 (10.3%)	0.079

## DISCUSSION

- There was no difference between DOACs and warfarin in incidence of recurrent VTE or stroke
- While not statistically significant, DOACs had a lower trend of both major and CRNMB bleeding than warfarin



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