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Arrhythmias and Clinical EP

NOVEL ORAL ANTICOAGULANTS AND CONCOMITANT ANTIPLATELET THERAPY FOR STROKE PREVENTION IN PATIENTS WITH ATRIAL FIBRILLATION: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Background: With the increasing use of novel oral anticoagulants (NOAC), patients are often on both NOACs (apixaban, rivaroxaban and dabigatran) and antiplatelet therapy (aspirin or clopidogrel). However, it remains unclear how the addition of antiplatelet therapy to NOACs impacts stroke prevention and bleeding risk.

Methods: To examine the safety and efficacy of dual therapy (NOAC + antiplatelet) compared with NOAC alone in the prevention of thromboembolic events in patients with nonvalvular atrial fibrillation, a meta-analysis was performed. Data was pooled from randomized controlled trials (RCTs) that compared NOACs to warfarin in order to compare thromboembolic and bleeding event rates among those on both NOAC and antiplatelet therapy to NOAC alone.

Results: Data from four RCTs, with a total of 28,511 patients, were included in the meta-analysis. Patients on both NOAC and antiplatelet agents had a composite risk of thromboembolic events that was higher than patients on NOAC alone (RR 1.34; 95% Cl 1.17, 1.55) as well as a higher risk of bleeding (RR 1.29; 95% Cl 1.20, 1.38).

Conclusions: In the data available thus far regarding novel oral anticoagulants apixaban, rivaroxaban and dabigatran, patients on NOACs and antiplatelet therapy have higher rates of both thromboembolic events and major bleeding than those on NOACs alone. In this meta-analysis, patients were not randomized to antiplatelet therapy use and thus further prospective studies are needed.

Thromboembolic events in patients on NOAC and antiplatelet therapy compared to NOAC alone.

	NOAC+Antiplatelet		NOAC		Risk Ratio		Risk Ratio		
Study or Subgroup	Events	Total	Events	Total	Weight	IV, Fixed, 95% CI	IV, Fixed, 95% CI		
ARISTOTLE 2011	70	2859	142	6261	24.4%	1.08 [0.81, 1.43]		+	
PETRO 2007	0	69	0	100		Not estimable			
RE-LY 2013	168	4626	153	7465	41.8%	1.77 [1.43, 2.20]		-	
ROCKET AF 2011	105	2575	164	4506	33.8%	1.12 [0.88, 1.42]		†	
Total (95% CI)		10129		18332	100.0%	1.34 [1.17, 1.55]		*	
Total events	343		459						
Heterogeneity: Chi ² = 1	0.81, df = 2 (P =	0.005); I ² =	81%				0.04	1 10	400
Test for overall effect: $Z = 4.16$ (P < 0.0001)						Favo	0.01 0.1 rs [NOAC+Antiplatelet]	1 10 Favors [NOAC]	100