CORE

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CRYPTOGENIC STROKE AND UNDERLYING ATRIAL FIBRILLATION: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROL TRIALS

Poster Contributions Poster Hall B1 Saturday, March 14, 2015, 3:45 p.m.-4:30 p.m.

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Background: Recent studies have shown that prolonged rhythm monitoring results in increased detection of atrial fibrillation (AF) in patients with cryptogenic stroke (CS). We performed a systematic review and meta-analysis of all the randomized control trials (RCTs) that used prolonged rhythm monitoring strategy in patients with CS.

Methods and Results: Four RCTs (enrolling 1153 patients) were identified by database searches. Baseline characteristics were similar in all the RCTs. The median follow up duration was 55 days (Range 7 days to 36 months). Pooled odds ratio (OR) of identifying AF was calculated using Peto fixed effects model. Heterogeneity was assessed using I2. There was no heterogeneity among the included studies. Longer monitoring with either insertable cardiac monitor (1 trial) or external wearable monitors (3 trials) resulted in increased detection of AF (OR 5.01, 95% CI 3.39 - 7.42; p < 0.00001) compared to control (Figure 1) and has led to increased use of anticoagulant therapy (OR 2.63, 95% CI 1.61 - 4.30; p < 0.0005) among these patients. Sub group analyses revealed incremental yield of prolonged rhythm monitoring for AF detection.

Conclusion: The results of this study suggest that prolonged rhythm monitoring results in increased detection of AF in patients with CS. However, the implications of increased AF detection on clinical outcomes are not clear.

					ma	onitoring		
	Longer Monitoring		Control		Peto Odds Ratio		Peto Odds Ratio	Peto Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	Peto, Fixed, 95% CI		Peto, Fixed, 95% CI
15.13.1 Invasive Moni	toring							
Sanna et al 2014 Subtotal (95% CI)	42	221 221	5	220 220	42.1% 42.1%	5.77 [3.16, 10.56] 5.77 [3.16, 10.56]		-
Total events	42		5					
Heterogeneity: Not app	licable							
Test for overall effect.	Z = 5.69 (P < 0.	00001)						
15.13.2 Non-Invasive	Monitoring							
Gladstone et al 2014	45	280	9	277	48.8%	4.31 [2.46, 7.56]		
Higgins et al 2013	9	50	1	50	9.1%	5.81 [1.58, 21.33]		
Kamel et al 2013	0	20	0	20		Not estimable		
Subtotal (95% CI)		350		347	57.9%	4.52 [2.70, 7.57]		•
Total events	54		10					
Heterogeneity: Chi2 = I	0.17, df = 1 (P =	0.68); P	= 0%					
Test for overall effect.	Z = 5.74 (P < 0.	00001)						
Total (95% CI)		571		567	100.0%	5.01 [3.39, 7.42]		•
Total events	96		15					
Heterogeneity: Chi2 = I	0.53, df = 2 (P =	0.77); P	= 0%				0.01	
Test for overall effect 3	Z = 8.06 (P < 0.	00001)					0.01	U.1 I 10 100 Economic Control Economic Longer Manifesteria
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Figure 1: Forest plot shows significantly increased detection of AF with longer