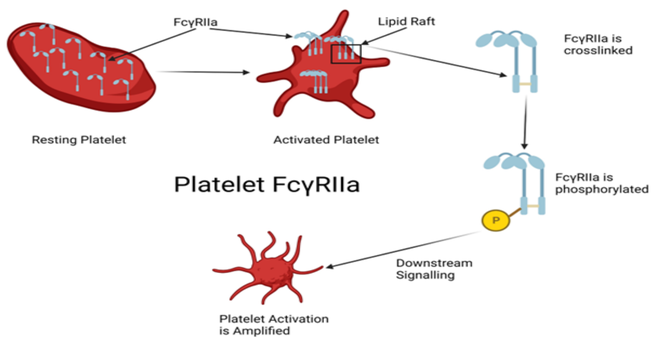
Association Between Prognostic Implications of Platelet FcγRIIa (pFCG) and Treatment Strategy for Myocardial Infarction (MI)

David J. Schneider, Sean R. McMahon, Dominick J. Angiolillo, Alexander Fanaroff, Homam Ibrahim, Patrick K. Hohl, Brett L. Wanamaker, Mark B. Effron, Kevin Ball, Timothy Shapiro, Peter M. DiBattiste, on behalf of the Investigators

BACKGROUND

Clustering of a surface receptor, platelet FcγRIIa (pFCG), in signaling domains during platelet activation amplifies activation.



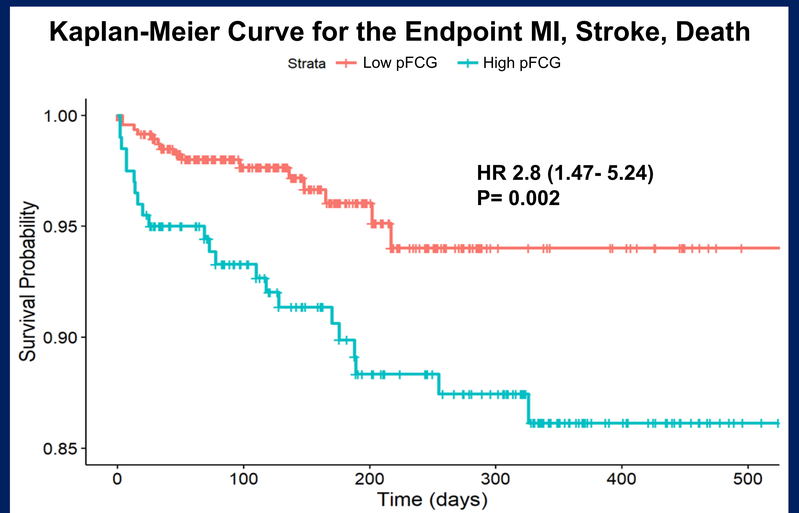
Greater pFCG is associated with greater platelet reactivity. Unlike platelet function tests, quantifying pFCG does not require activation of platelets and thereby reduces test variability. An additional important distinction is that high pFCG reflects increased platelet reactivity to any agonist.

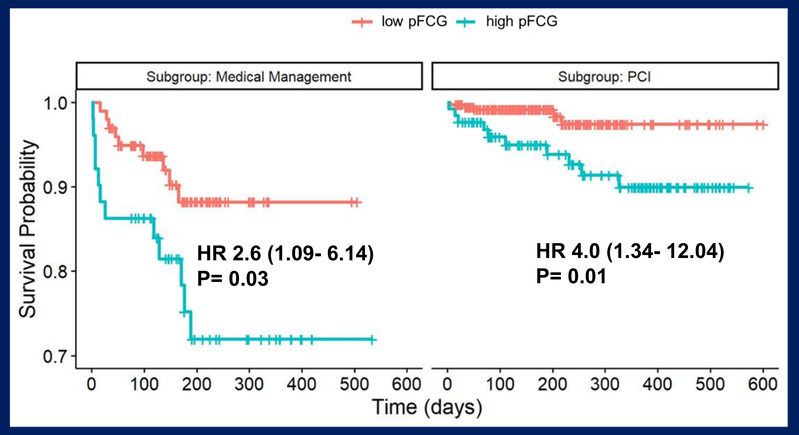
This report describes the prognostic implications of pFCG associated with treatment strategy in a multicenter study of 800 patients with MI.

METHODS

Platelet with type 1 MI were recruited during their index hospitalization. Enrolled patients had 2 of the following characteristics: age ≥ 65, multi-vessel coronary artery disease, prior MI, chronic kidney disease, and/or diabetes mellitus. pFCG was quantified on previously fixed platelets in blood that was taken within 2 weeks of enrollment. Patients were contacted every 6 months and patient reported events were confirmed by review of medical records. The primary endpoint was a composite of MI, stroke, and death.

pFCG identifies patients at high and low risk of subsequent cardiovascular events





CONTACT INFO:
For more information, scan the QR code, go to *www.prolocor.com, or* email *david.schneider@med.uvm.edu*

Poster 1307-159

ACC.24

RESULTS

This pre-planned interim analysis encompasses ~400 patient years. Strategies included percutaneous coronary intervention (PCI, 63%), medical management (22%), and coronary artery bypass surgery (15%). Anti-thrombotic therapy was similar in patients with high and low pFCG.

Characteristic	All Patients (n=764)	PCI (n=494)	Medical (n=150)	p
Age (mean ± SD)	69 ± 10	69 ± 10	70 ±10	0.284
Gender (% male)	67% (515)	64% (317)	73% (109)	**0.042**
MI Type				
STEMI	29% (223)	41% (204)	5% (7)	**<0.001**
NSTEMI	71% (541)	59% (290)	95% (143)	**<0.001**
HTN	87% (665)	86% (424)	92% (138)	0.053
DM	57% (435)	55% (273)	70% (105)	**0.001**
insulin treatment	26% (199)	24% (119)	37% (56)	**0.002**
Active Smoker	22% (168)	23% (114)	19% (28)	0.301
Hyperlipidemia	74% (565)	75% (369)	71% (106)	0.328
Prior MI	28% (214)	28% (137)	37% (56)	**0.036**
Prior CABG	14% (107)	14% (68)	23% (34)	**0.001**
Prior PCI	36% (275)	37% (182)	43% (64)	0.186
PAD	12% (92)	10% (48)	23% (35)	**<0.001**
Prior stroke	10% (76)	9% (42)	15% (22)	**0.035**
Renal Insufficiency				
GFR <60	31% (237)	29% (144)	49% (69)	**<0.001**
ESRD	4% (30)	3% (17)	7% (10)	**0.027**
Medications				
Aspirin	93% (711)	95% (471)	81% (121)	**<0.001**
Clopidogrel	56% (425)	54% (267)	60% (90)	0.196
Ticagrelor	24% (183)	34% (169)	7% (11)	**<0.001**
Prasugrel	7% (53)	10% (33)	0% (0)	**<0.001**
Anticoagulant	15% (111)	14% (50)	25% (38)	**0.002**
β-blocker	88% (672)	89% (437)	86% (129)	0.317
CCB	21% (160)	20% (100)	28% (42)	**0.038**
nitrates	33% (242)	37% (182)	39% (59)	0.658
ACEI/ARB	55% (91)	64% (317)	49% (73)	**0.001**
diuretic	39% (22)	28% (137)	49% (73)	**<0.001**
Lipid Lowering	94% (718)	96% (475)	84% (126)	**<0.001**

CONCLUSION

pFCG identifies patients at high and low risk of subsequent cardiovascular events. This prognostic information should be useful in clinical decisions regarding the intensity and duration of antiplatelet therapy.

DISCLOSURE INFORMATION

David J Schneider is named inventor on a patent (US 10,502,737) that proposes the use of FcγRIIa for assaying platelet reactivity and treatment selection. David J. Schneider and Peter M DiBattiste are co-founders of Prolocor. All other authors have nothing to disclose.

prolocor™
DELIVERING PRECISION CARE