Safety of the combination of low-molecular-weight heparin and glycoprotein IIb/IIIa inhibitors: observations from the Global Registry of Acute Coronary Events (GRACE)

C.P. Cannon*, F. Van de Werf , Á. Avezum, G. Montalescot, W. Lankes, B.M. Kennelly, G. Agnelli, T. Mazurek, R.S. Kasper, D. Brieger

*Cardiovascular Division, Brigham and Women's Hospital, Boston, USA

Eur Heart J 2001: 22 (suppl): 592.

Background: The LMWH enoxaparin and the combination of GP IIb/IIIa inhibitors and UFH reduce the risk of death or MI at 30 days by 15–20% in patients with ACS. Data from randomized clinical trials on the possible benefits and safety of the combining LMWH and GP IIb/IIIa inhibitors, particularly in patients undergoing PCI, are not yet available. In this study of patients with ACS enrolled in the multinational GRACE registry, we hypothesized that the risk of major hemorrhage using LMWH combined with GP IIb/IIIa inhibitors was similar to the risk using UFH.

Methods and results: Of 11 426 patients presenting with ACS, 7290 presented with NSTEMI or UA. The highest rate of major bleeding was seen in patients who received UFH and GP IIb/IIIa inhibitors (Table). Multivariate analysis revealed that increasing age (OR 1.5/decade, P<0.0001) and treatment with the combination of UFH and GP IIb/IIIa inhibitors (OR 2.3, P=0.0068) were significant predictors of major bleeding.

Conclusions: The findings of this study reveal a low rate of major hemorrhage among patients treated with the combination of LMWH and GP IIb/IIIa inhibitors. These data contribute to the growing body of evidence suggesting that LMWH combined with GP IIb/IIIa inhibitors is safe, and can be used for the treatment of patients with UA or NSTEMI, including those referred for PCI or CABG.

	UFH (n=2121)	LMWH (n=3440)	UFH+GP IIb/IIIa (n=174)	LMWH+GP IIb/IIIa (n=157)	P-value (4-way)
	Patients (%)				
	29	47	2	2	
Major hemorrhage	3.4	2.8	7.5	3.2	0.006
Medical therapy only	2.7	1.4	9.7	1.9	0.0002
With CABG	6.0	5.0	5.9	0	0.88
With PCI	4.8	5.8	5.3	4.4	0.92

Table. In-hospital treatment and outcomes of ACS patients undergoing primary, rescue, urgent or effective PCI