

Table 2.

Low Molecular Weight Heparin Trials in Acute Coronary Syndromes

TRIALS	ESSENCE	TIMI IIB	FRIC	FRISC	FRISC II	FRAXIS
LMWH	Enoxaparin	Enoxaparin	Dalteparin	Dalteparin	Dalteparin	Nadroparin
Patients: #	3171	3910 (3-8 d) 2346 (8-43 d)	1482 (1-6 d) 1133 (6-45 d)	1506	(1) 2105 (2) 2457	3468
CP w/i	24 hr	24 hr	72 hr	72 hr	72 hr	48 hr
EKG Δ	57% (ST or T ↓ or other changes)	83% (ST or T ↓ or other changes)	100% (ST or T ↓)	100% (ST or T ↓)	(100%) (ST or T ↓)	(100%) (ST or T ↓)
NQMI	21%	34%	16%	38%	—	~ 16%
Primary end point	Death, MI, or RA at 14 d	Death, MI, urgent revasc at 8 and 43 d	Death, MI, or RA during days 6-45	Death or MI at 6 d	Death or MI at 30 d and at 6 months	CV death, MI, or RA at 14 d
Groups	LMWH UFH	LMWH UFH	LMWH UFH	LMWH Placebo	(1) LMWH Placebo (2) PCI No-PCI	LMWH × 6d LMWH × 14d IV UFH × 6d
Dose	1 mg/kg SC bid × 2-8 d	Up to 8 d: 30 mg bolus + 1 mg/kg bid; 8-43 d: 40 mg (< 65 kg) or 60 mg (≥ 65 kg) SC bid	Up to 6 d: 120 Anti-Xa U/kg SC bid; 6-45 d: 7500 anti-Xa SC qd	120 IU/kg SC bid × 6 d then 7500 IU qd X 42 d	120 IU/kg SC bid × 1-5 d + 7500 IU SC bid × 5-90 d	86 IU/kg IV bolus then 86 IU/kg SC bid
UFH dose	5000 U IV bolus + infusion	70 U/kg IV bolus + 15 U/kg IV infusion	5000 U IV bolus + 1000 U/hr infusion	UFH only used as a rescue drug ³	UFH only used as a rescue drug ³	5000 U IV bolus + 1250 U infusion
Death LMWH MI (%) Placebo	—	—	—	6 d: 1.8* 40 d: 8.0 6 d: 4.8 40 d: 10.7	30 d: 3.1 90 d: 6.7* 30 d: 5.9 90d: 8.0	—
Death LMWH MI	14 d: 16.6* ¹ 30 d: 19.8* ¹	8 d: 12.4* 43 d: 17.3* ¹	6 d: 9.3 6-45 d: 12.3	—	—	14 d: (6 d R _x - 17.8) (14 d R _x - 20.0)
RA UFH (%)	14 d: 19.8 30 d: 23.3	8 d: 14.5 43 d: 19.7	6 d: 7.6 6-45 d: 12.3	—	—	14 d: 18.1
Major Bleed² (%)	LMWH	8 d: 1.5 43 d: 2.9*	6 d: 1.1 6-45 d: 0.5	6 d: 0.8 40 d: 0.3	90 d: 3.3	6 d & 14 d nadro at 6 d: 1.0 6 d nadro at 14 d: 1.5 14 d nadro at 14 d: 3.5*
UFH	30 d: 6.5	8 d: 1.0 43 d: 1.5	6 d: 1.0 6 d-45 d: 0.4	—	—	6 d UFH at 6 d: 1.0 6 d UFH at 14 d: 1.6
Placebo	—	—	—	6 d: 0.5 40 d: 0.3	90 d: 1.5	—

d, day(s); RA, recurrent angina; UFH, unfractionated heparin; NQMI, non-Q wave MI; Revasc, revascularization (PTCA, CABG); CV, cardiovascular; w/i, within; NA, not applicable; SC, subcutaneous; nadro, nadroparin; LMWH, low molecular weight heparin; CP, chest pain.

* P < 0.05

¹ = Difference primarily due to need for fewer revascularization procedures.

² = Major hemorrhage defined: FRISC: ↓ hemoglobin of 20 g/L, required transfusion, was intracranial, or caused death or cessation of study treatment. In ESSENCE & TIMI IIB: bleeding resulting in death, transfusion of ≥ 2 units of blood, a ↓ hemoglobin of 30 g/L, or a retroperitoneal, intracranial, or intraocular hemorrhage. In FRAXIS: symptomatic bleeding associated with a ↓ hemoglobin > 2g/dL, retroperitoneal or intracranial hemorrhage, or if transfusion required or death caused.

³ = UFH also was used, but the trial was not designed to compare UFH with a LMWH.