

**Is TIMI-Score predictive of short- and long-term
cardiovascular events in young patients suffering of
ST- Elevation Myocardial infarction? A single center
study.**

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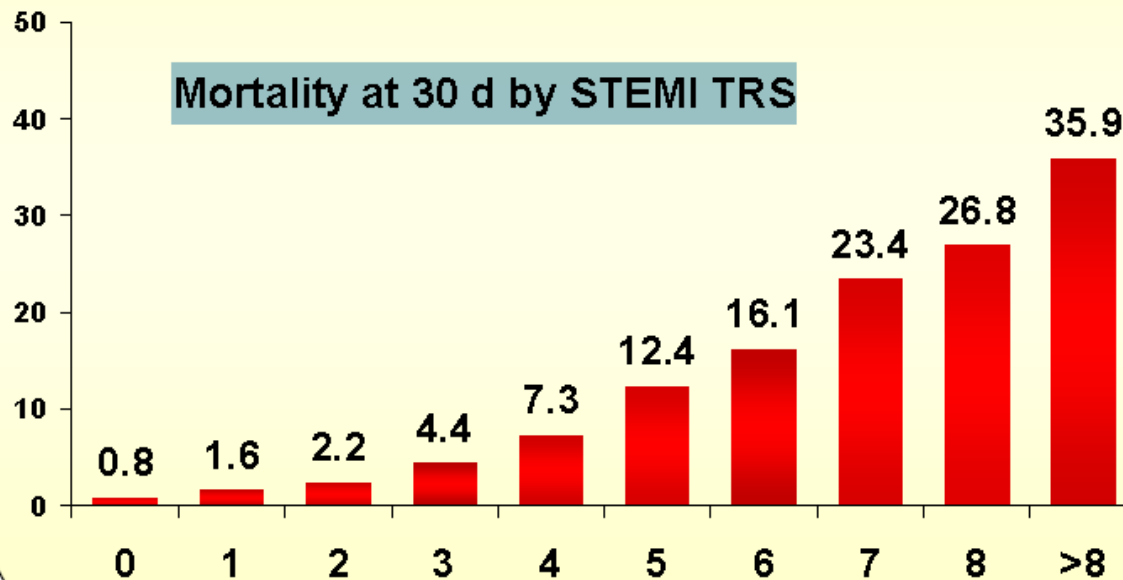
Background - Objectives

- Myocardial infarction is uncommon in young patients
- Usually associated in good short- and long-term prognosis
- No specific risk stratification validated
- **Main purpose** = to assess the prognosis of young patients (< 40 years) after ST-segment Elevation Myocardial Infarction (STEMI) and to test the effectiveness of TIMI Score in predicting short- and long-term prognosis.

Background - Score TIMI

TIMI

TIMI Risk Score for STEMI



Historical

Age	65-74	2pts
	>75	3pts
DM/HTN/Angina		1pt

Exam

SBP < 100 mmHg	3pts
HR > 100 bpm	2pts
Killip II - IV	2pts
Weight < 67 kg	1 pt

Presentation

Anterior STE or LBBB	1 pt
Time to Rx > 4hr	1pt

Risk Score = Total (0-14)



Methods - Study design and patient selection

- Retrospective study in the Jolimont Hospital
- Patients admitted in the Coronary Care Unit between 2000 and 2008 for ST-segment Elevation Myocardial Infarction (STEMI)
- < 40 years at the time of diagnosis
- Any reperfusion therapy (thrombolysis, PCI)

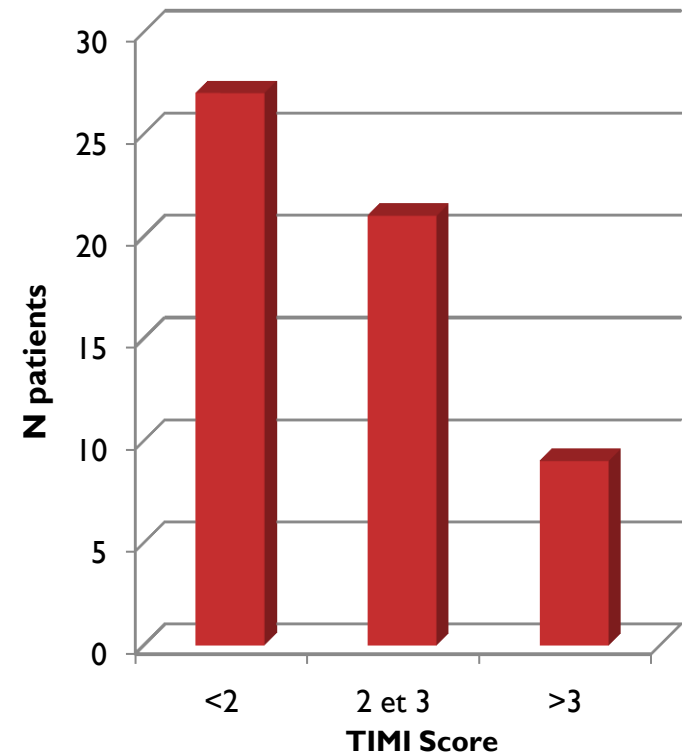
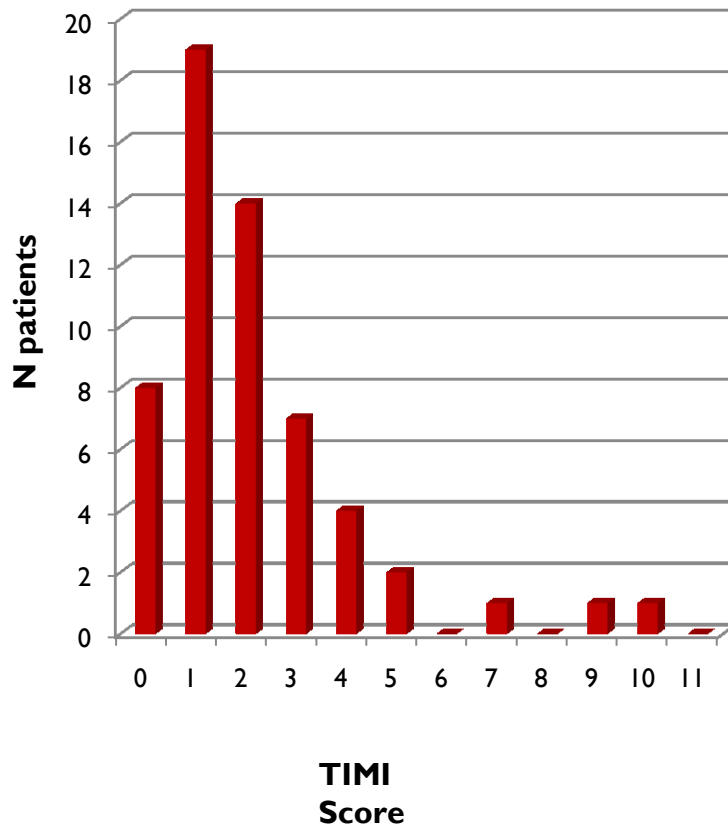
Methods - Data collection and endpoints

- Full data collected from medical files (discharge letters, case notes).
- If necessary contact with the cardiologist or the GP.
- Primary outcome:
Composite EP : Major Adverse CV events
 - **CV death**
 - **Re-MI**
 - **Re-ischemia**
 - **Hospitalization for CHF**

Results – Baseline data

Characteristics	Patients (n=57)
Age (years +/- SD)	36.2 (\pm2.7)
Male gender	48 (84%)
Cigarette smoking	
Never	7 (12%)
Former	5 (9%)
Current	45 (79%)
Family History	37 (66%)
Hyperlipidemia	36 (64%)
Hypertension	13 (23%)
Diabetes	5 (9%)
Prior MI	2 (4%)
TIMI Risk Score (mean +/- SD)	2.1 \pm 2

Results - TIMI risk score distribution



Results – STEMI in young patients (< 40 years)

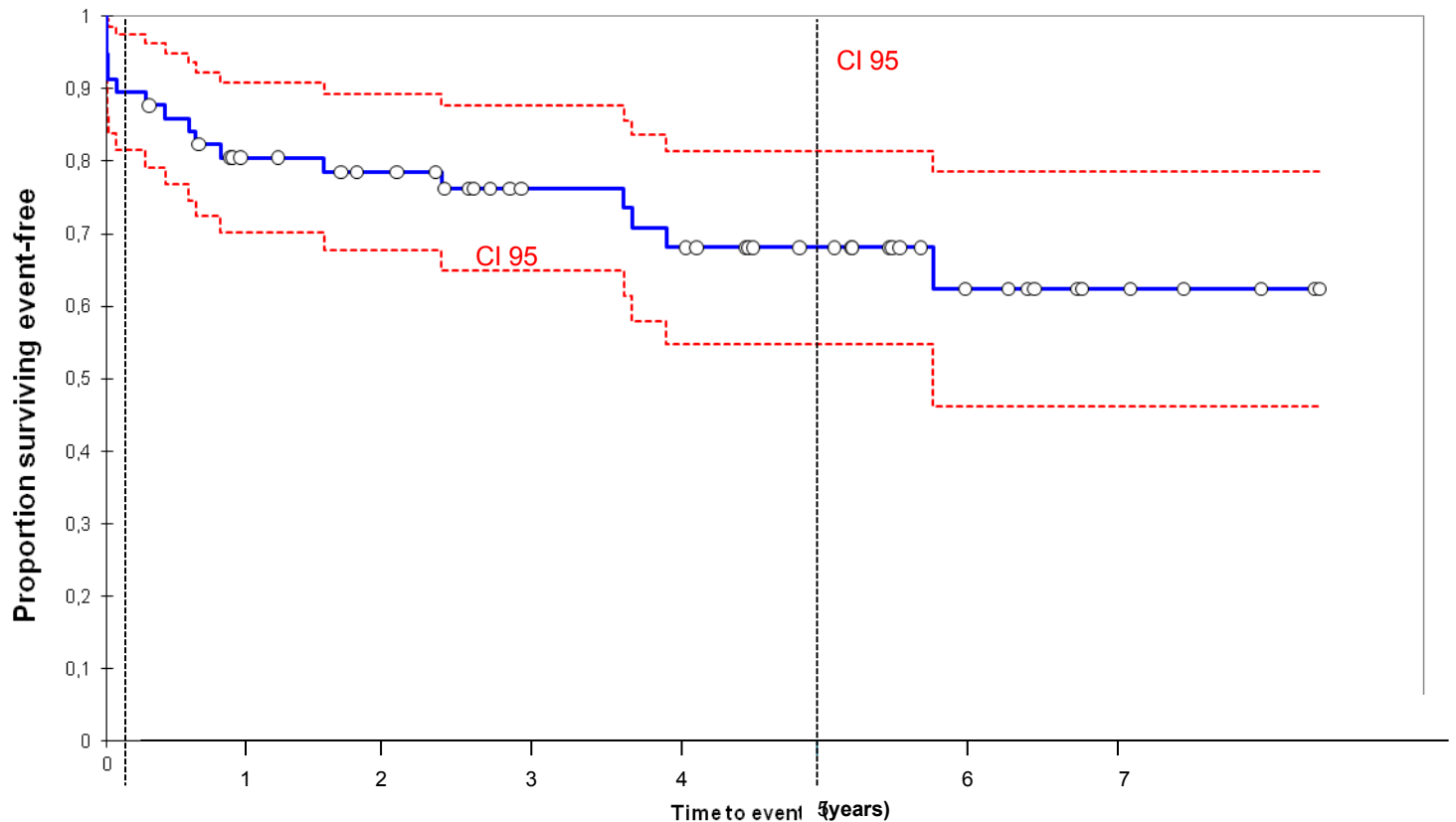
- **Coronary anatomy :**
 - No stenosis 8/57 (14%),
 - 1 vessel with significant stenosis 41/57 (72%)
- **Therapy :** No-RT 1/57 (2%), TT 32/57 (56%), pPCI 24/57 (42%)

Follow-up (months \pm SD) : 62 \pm 35

- **Patients experiencing at least one major adverse CV event : 17/57 (30%)**
 - **CV death : 3/57 (5%)**
 - Re-MI : 8/57 (14%)
 - Re-ischemia : 5/57 (9%)
 - Hospitalization for CHF : 4/57 (7%)

Results – Major adverse CV events after MI

Survival free of death/cardiovascular event after Myocardial Infarction



Results – Major adverse CV events by TIMI Score

Follow-up (months ± SD) 62 ± 35

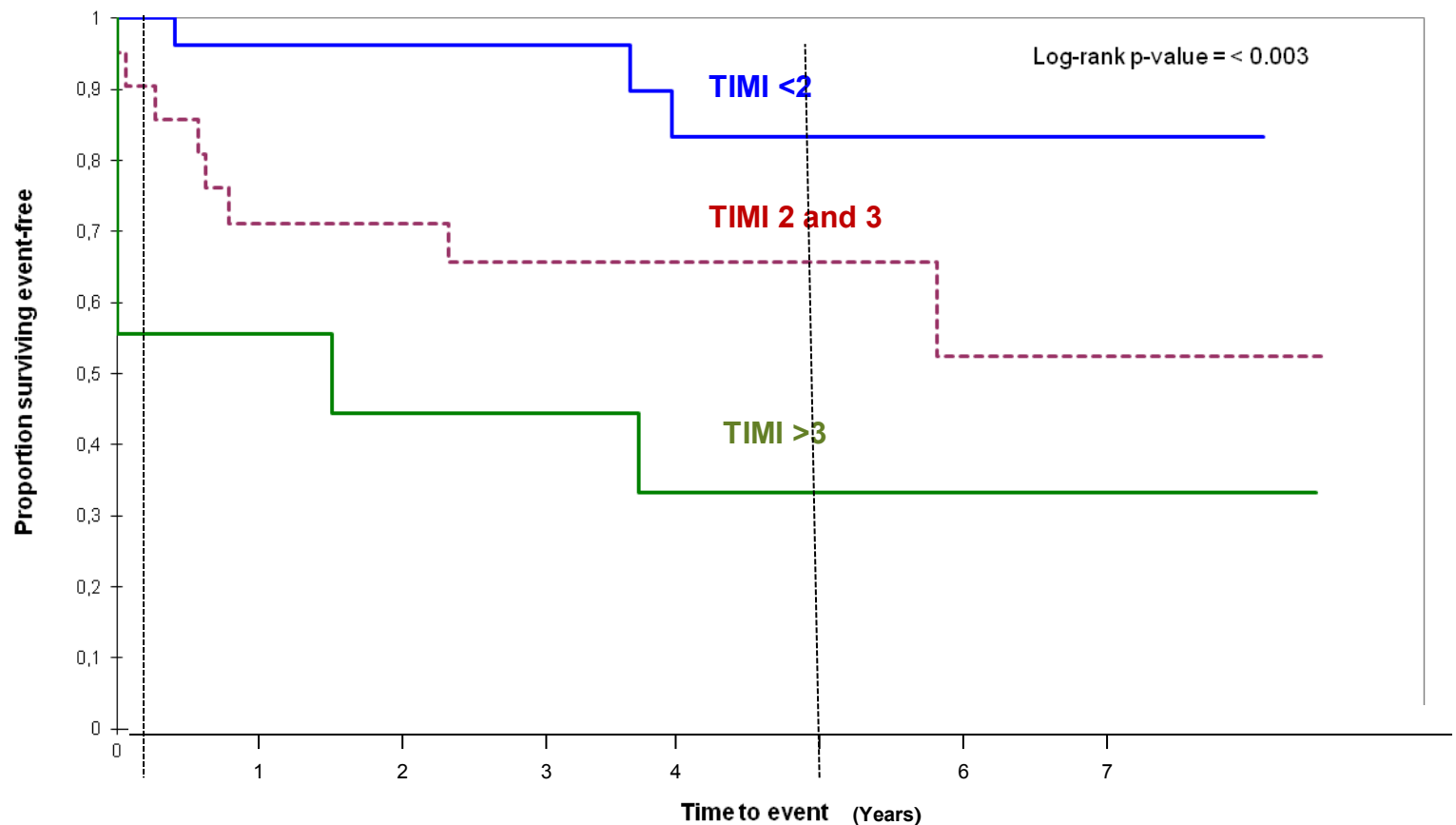
	TIMI	0-1	2-3	>3	p
Score		(n=27)	(n=21)	(n=9)	

Composite : all patients with major adverse CV events	3 (11%)	8 (38%)	6 (66%)	0.004
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CV death	0	2 (9.5%)	1 (11%)
Re-MI	1 (4%)	4 (19%)	3(33%)
Re-ischemia	2 (7%)	3 (14%)	0
Re-hosp CHF	0	1 (5%)	3 (33%)

Results - Major adverse CV events by TIMI Risk Score

Survival free of CV death / CV event after Myocardial Infarction



Conclusions

- Myocardial Infarction in patients < 40 yrs:
 1. **Good prognosis :**
 - Overall survival (5 yrs) : **93%**
 - Survival free of CV death (5 yrs) : **95%**
 - Survival free of CV event / CV death (5 yrs) : **70%**
 2. **Significant correlation between TIMI Score and probability of short- and long-term adverse cardiovascular events**