

Failed Primary Percutaneous Coronary Intervention: A 10-Year Contemporary Experience of the Incidence, Predictors and Outcomes

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Conflict of interest:

There are no potential sources of conflict for this research

Introduction

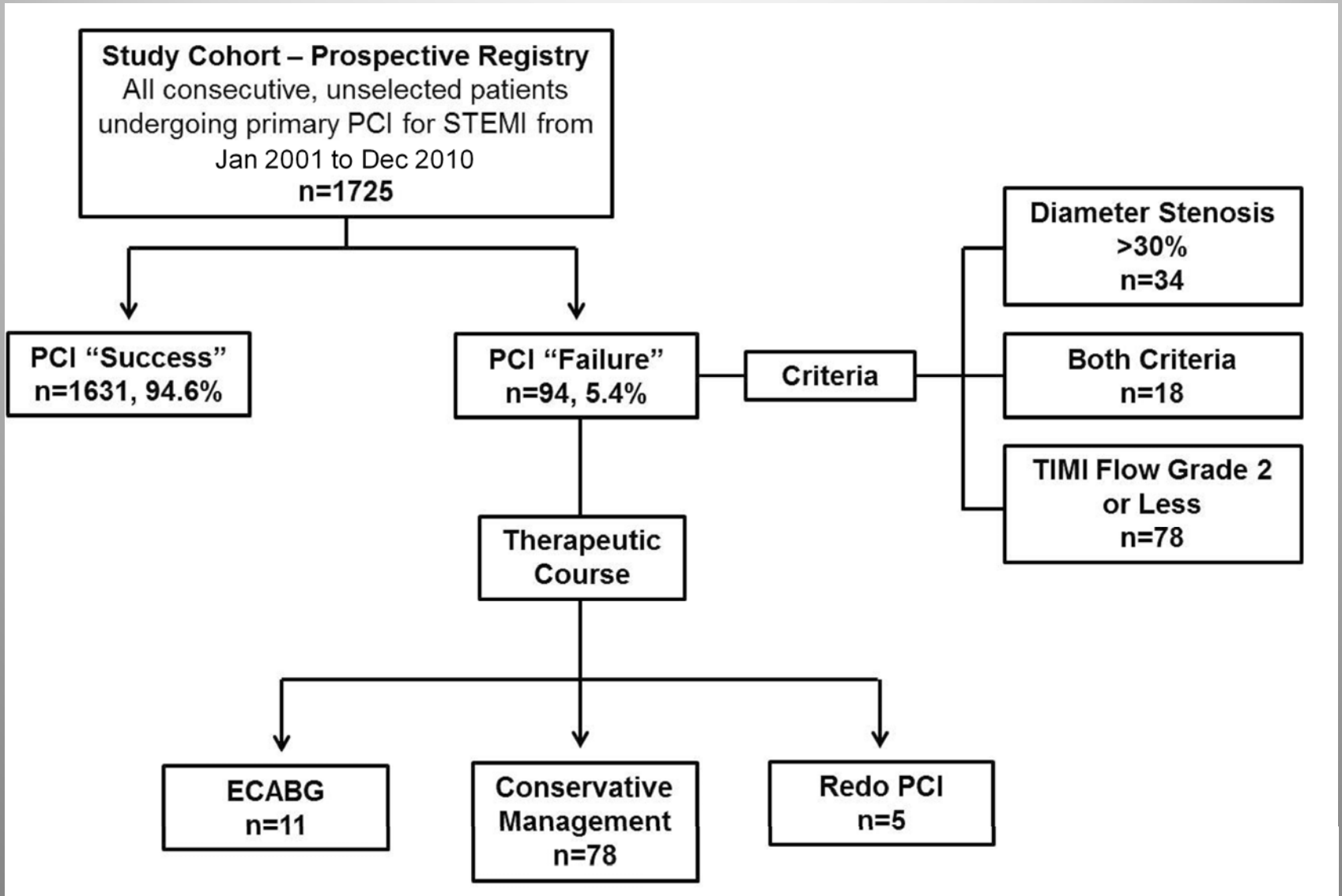
- Study goal: to evaluate the prevalence, predictors and outcomes of failed primary PCI
- PCI failure was defined as:
final diameter stenosis > 30%
or
post-dilatation TIMI flow grade ≤ 2

Methods

- Prospective registry of all STEMI pts undergoing Emergency PCI starting from January 2001
- Detailed Clinical and Angiographic data collected
- In-hospital and long term follow-up: out-patients clinic & phone call
- All end points confirmed

- **Included: patients with STEMI treated with primary PCI within 12 hours of symptom onset**
- **Excluded: patients admitted with cardiogenic shock**

Study design



Results-

Independent predictors of PCI failure:

	OR	95% CI	P-value
Age greater than 65	1.7	1.0–1.7	0.02
Calcified lesion	2.1	1.2-3.5	0.008
Pre-procedural TIMI flow ≤ 1	1.4	1.3-2.0	0.006
PCI date 2001-5	2.4	1.0-6.1	0.05
Night-time PCI	1.9	1.9–2.9	0.008

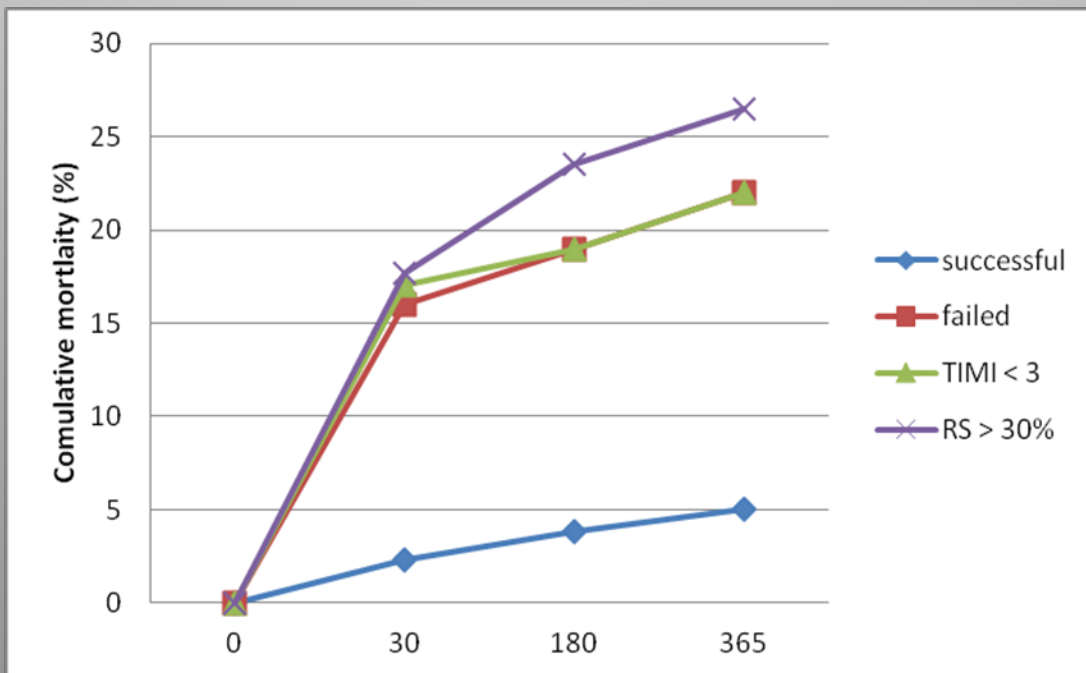
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Clinical Course after PCI Failure

All STEMI Patients Undergoing Primary PCI (n=1725)	n	Mortality Rates		
		30-day	6-month	1-year*
Successful PCI	1631	38 (2.3%)	62 (3.8%)	68 (5.0%)
Failed PCI	94	15 (16%)	18 (19%)	21 (22%)
TIMI Flow Grade < 3	78	13 (17%)	15 (19%)	17 (22%)
Final Diameter Stenosis > 30%	34	6 (18%)	8 (24%)	9 (27%)



Therapeutic Course after PCI Failure

Failed procedures (n=94)	n	30-day Mortality n(%)
CABG	11	3(27%)
Conservative management	78	12(16%)
Re-do PCI	5	0(0%)

Conclusion

Primary PCI failure:

- Still occurs at substantial rate (5.4%)
- Decline in recent years (6.9% in 2001-5 vs. 4.4% in 2006-10)
- Portends poor prognosis up to one year post-STEMI
- Patient level predictors: Age >65, calcified lesion, pre-procedural TIMI ≤ 1
- Operator level predictor: night time procedure



Thank
you!