

# High-grade Atrioventricular Block in ST-Segment Elevation Myocardial Infarction Patients - insights of a tertiary centre

G. Abreu, C. Braga, C. Arantes, J. Martins, C. Quina-Rodrigues, C. Vieira, A. Salgado, P. Azevedo, J. Marques; Hospital de Braga, Braga, Portugal

## BACKGROUND

High-grade atrioventricular block (HABV) is associated with poorer outcomes in the setting of acute coronary syndromes. Limited information is available on the incidence and death associated with HABV in STEMI patients (pts) receiving contemporary treatment.

## AIM



To evaluate the incidence of HABV and its impact on outcome of STEMI pts, in primary percutaneous coronary intervention era.

## METHODS

1149 STEMI pts admitted, consecutively, in our coronary unit, from July of 2009 to June 2014

For each group we compared clinical features and adverse events.

HABV was defined as the presence of either Mobitz II 2nd degree AV block or 3rd degree AV block.

### Group 1

Pts without HABV  
(n=1057, 92%)

### Group 2

Pts with HABV  
(n=92, 8%)

## RESULTS

Table I – Baseline patients' characteristics.

	Group 1 (n=1057; 92%)	Group 2 (n=93; 8%)	p value
<b>Demographic</b>			
Age (years)	62±13	69±15	<0.001
Female (%)	19	30.4	0.014
<b>Cardiovascular Risk Factors (%)</b>			
Diabetes	22.9	20.7	NS
Hypertension	57.3	71.7	0.008
Dyslipidemia	51.4	41.3	0.06
Smoking	38.1	32.6	NS
<b>Previous Medical History (%)</b>			
Myocardial Infarction	8.3	7.6	NS
Stroke	5.9	10.9	0.07
Aortic valvular stenosis	1.7	6.5	0.002

Table II – Clinical features, treatment and adverse events

	Group 1 (n=1057; 92%)	Group 2 (n=93; 8%)	p value
<b>Clinical Presentation (%)</b>			
Killip > I	18	42.4	<0.001
Cardiogenic shock	2.9	23.1	<0.001
Anaemia	20.7	39.8	<0.001
Renal Insufficiency	20.7	50.6	<0.001
Right systolic dysfunction	5	25	<0.001
<b>Procedures and Treatment (%)</b>			
Primary PCI	88.9	88	NS
Thrombolysis	1.1	0	NS
Aminergic support	7.2	42.4	<0.001
Intra-aortic balloon pump	4.3	9.6	0.05
Mechanical ventilation	2.6	14.5	<0.001
<b>Adverse events (%)</b>			
Malignant arrhythmias at 1 <sup>st</sup> 24h	6.5	14.1	0.017
Mechanical complications	1.7	4.3	0.09
In-hospital mortality	3.7	24.2	<0.001

## CONCLUSION

Besides low incidence of HABV, this complication continues to have a high risk of in-hospital and 6-month mortality and occurring with anterior myocardial infarction the risk increases significantly.

- Primary endpoint was the occurrence of death at 6 months.
- Follow-up was completed in 99% of pts.

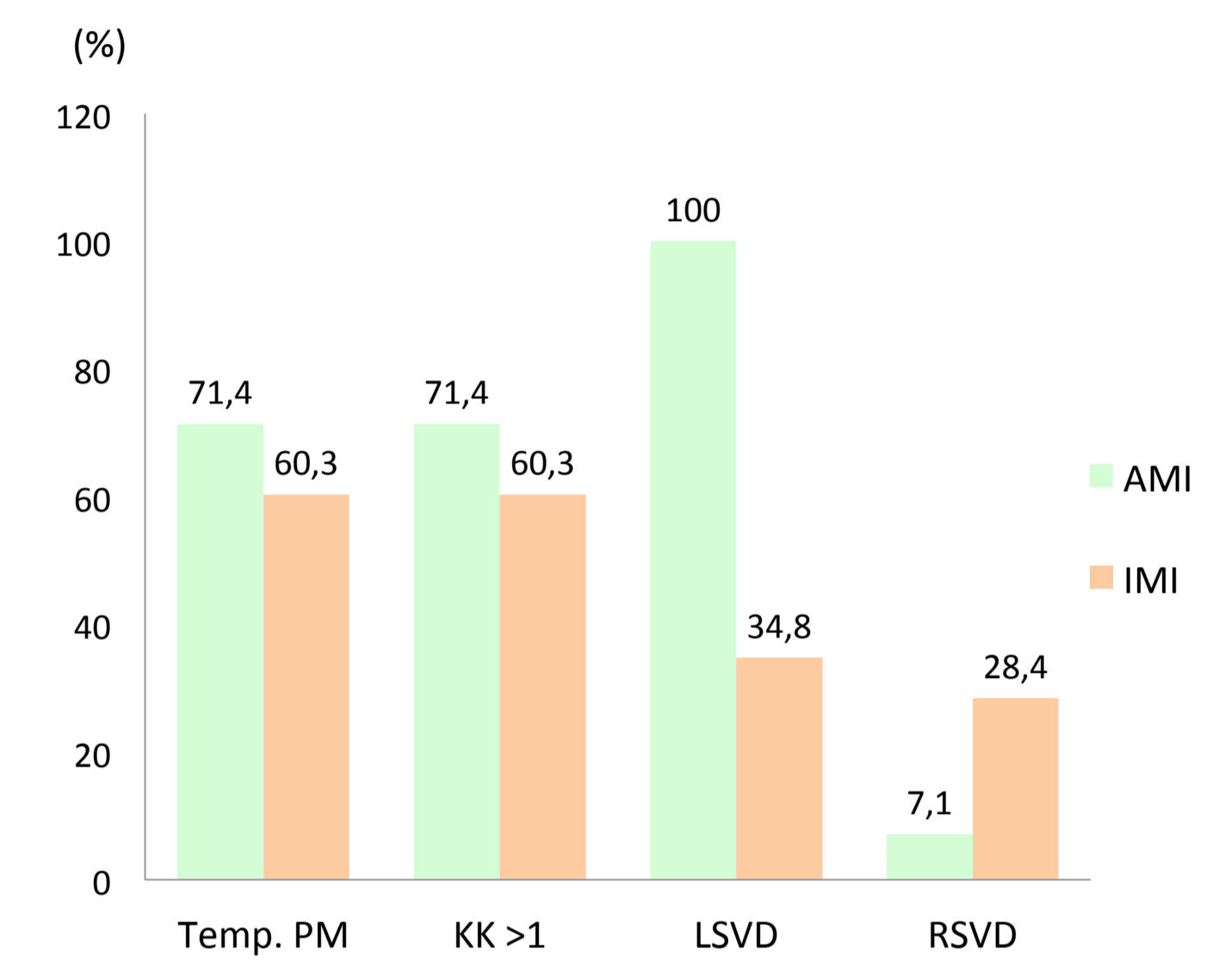
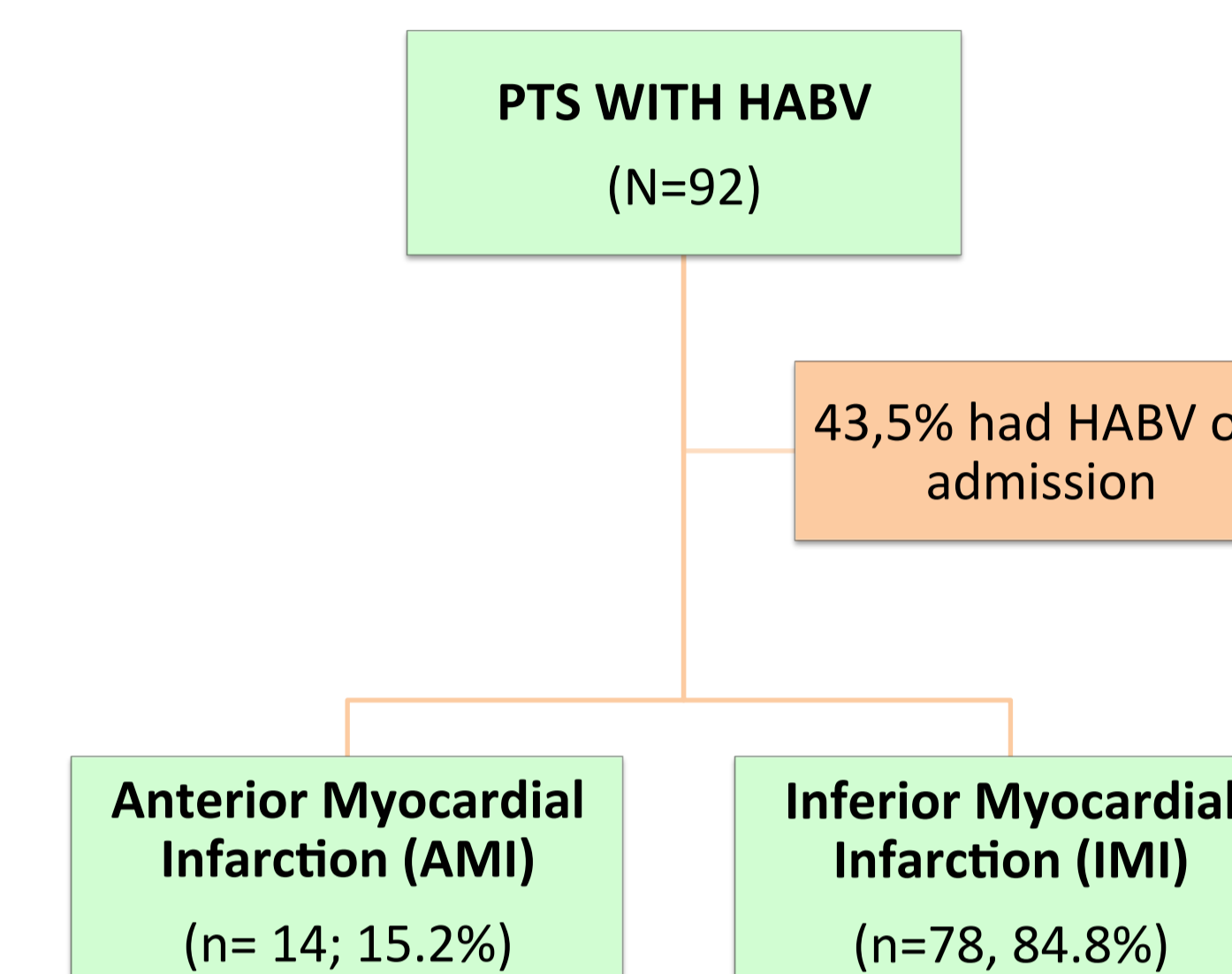


Fig 1 – Clinical differences between AMI and IMI pts.

Compared with IMI, AMI pts had higher risk of in-hospital [OR 9.04, 95% CI (2.87-28.50);p<0.001] and 6-month mortality [OR 10.88; 95% CI (3.33–35.53);p<0.001].

After adjusting for different baseline characteristics in multivariate analysis: HABV patients had higher risk of overall 6-month mortality compared to those without HABV [OR 2.18, 95% CI (1.25-3.79);p=0.006].

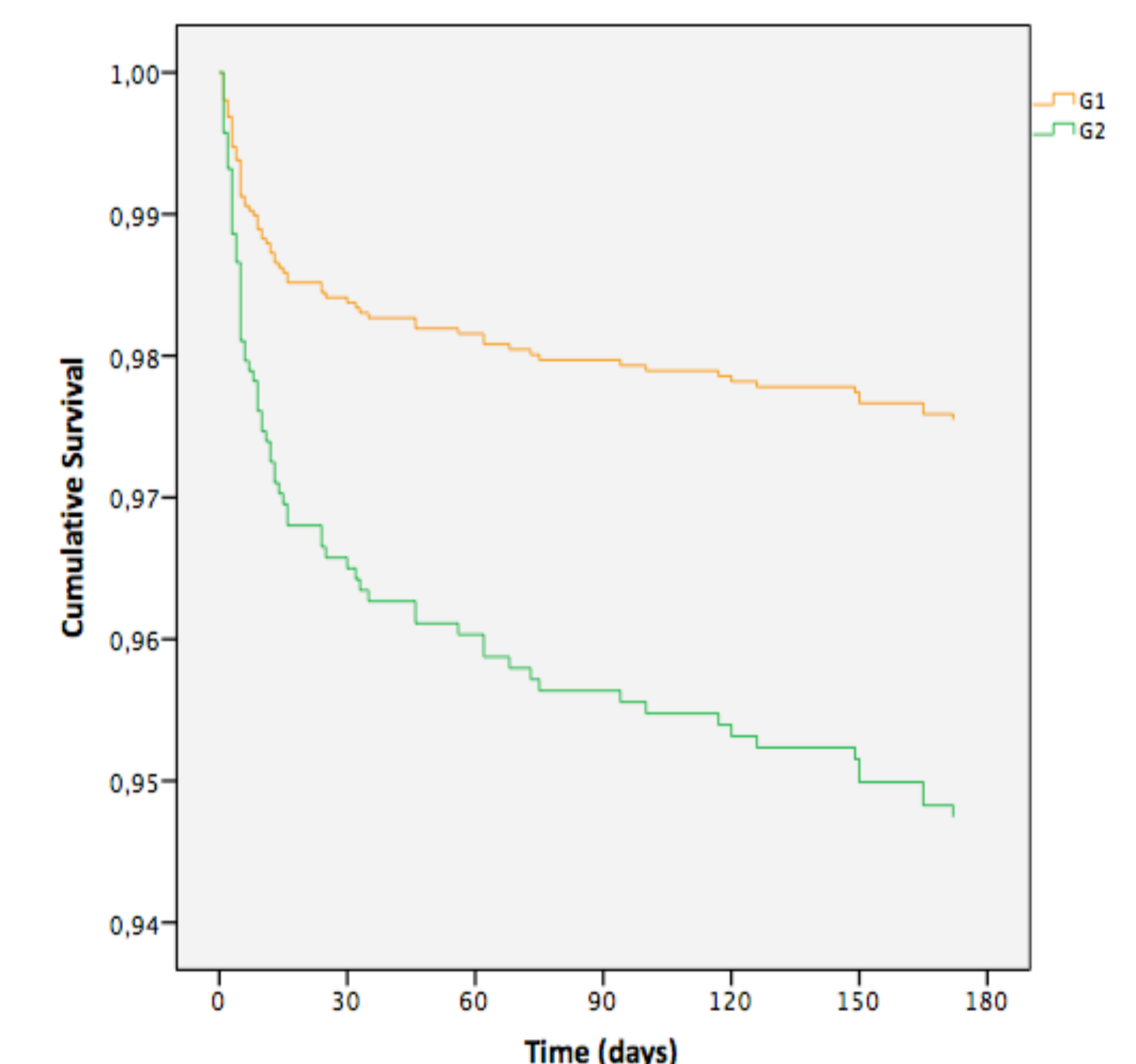


Fig 2 – Survival analyses by Kaplan-Meier survival curves.