Real life versus score-predicted mortality in patients presented to the Heart Team
Data from a selected high risk population, in a high volume centre

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Aims of the study

• to determine the real life 30-days and 6-months mortality of complex patients.

• to compare the 30-days mortality as found in the real life versus score-predicted (EuroScore I, II & STS Score).

Characteristic (mean +/- SD)	Overall (N=201)	Surgical (N=117)	Interventionnal (N=45)	Medical (N=39)
Age (Median- yr)	66,00	64	77	66
Male Gender- no. (%)	139 (69.15%)	90 (76.9%)	25 (55.56%)	24 (61.54%)
Body Mass Index - kg/m²	26 (±0,3)	26,07 (±0.41)	26,31(±0.78)	25.34 (±0.7)
Cardiac disease – no. (%)				
- Ischemic	71 (35.32)	46 (39.32)	13 (28.89)	12 (30.77)
- Valvular	64 (31.84)	42 (35.90)	15 (33.33)	7 (17.95)
- Ischemic&valvular	36 (17.91)	18 (15.38)	14 (31.11)	4 (10.26)
- Other	38 (18.91)	17 (14.53)	4 (8.89)	17 (43.59)
Risk factors –no. (%)				
- High blood pressure	120 (59.7)	73 (62.39)	28(62.22)	19 (48.72)
- Smokers	69 (0.34)	42 (35.90)	16 (35.58)	11 (28.21)
- Type 2 diabetes	67 (33.3)	40 (34.19)	17 (37.78)	10 (25.64)
Insuline	22 (14.1)	16 (16.33)	3 (9.68)	3 (11.11)
- Dyslipidemia	90 (45)	52 (44.83)	25 (55.56)	13 (33.33)
Medical history- no. (%)				
- Renal impairment	41 (20)	18 (15.38)	9 (20.00)	14 (35.90)
- CBPO	13 (8.39)	6 (6.12)	12 (50.00)	6 (31.58)
- Poor general state	19 (17.4)	1 (1.51)	6 (20.00)	1 (3.70)
Hostile thorax – no. (%)				
- Chest Irradiation	12 (6)	7 (5.98)	4 (8.89)	1 (0,02)
- Redux	25 (12.5)	12 (10.26)	8 (17.78)	5 (0.13)
- Tridux	8 (0.04)	4 (3.41)	2 (4,44)	2 (5,12)
Cardiac characteristics – no. (%)				
- LVEF (%)	53,5 (±0.9)	55.48 (±1.04)	51,31 (±2.07)	49.79 (±2.53)
- NYHA class of dyspnea	1,9 (±0.07)	1.81 (±0.09)	2,18 (±0.16)	1,92 (±0.17)
- Left main vessel	23 (0.11)	19 (16.24)	2 (4.44)	2 (5,12)
- One artery	21 (10)	10 (8.54)	11 (25.00)	0
- 2 arteries	28 (13.9)	17 (14.53)	7 (15.56)	4 (10.26)
- 3 arteries	57 (28.4)	38 (32.48)	6 (13.33)	13 (33.33)
- Aortic stenosis	72 (36)	39 (33.62)	23 (51.11)	10 (25.64)
- Mitral regurgitation	27 (13.6)	18 (15.65)	6 (13.33)	3 (7.69)
- Mitral stenosis	13 (6)	7 (6.03)	3 (6,81)	3 (7.69)
- Aortic regurgitation	24 (12)	16 (13.79)	3 (6.81)	6 (15.38)

Table I. Baseline features. There was no significant difference between the groups, at baseline

Risk scores -% (mean+/-SD)	Overall (N=201)	Surgical (N=117)	Interventionnal (N=45)	Medical (N=39)
EuroScore I	7.99 (±0.78)	6.20 (±1 .01)	12.33 (±1.83)	8.23 (±1.23)
EuroScore II	2.96 (±0.39)	2.73 (±0.57)	3.88 (±0.80)	2.53 (±0.37)
STS Mortality	2.97 (±0.35)	2.20 (±0,40)	4.86 (±0.97)	3.26 (±0.56)
STS Morbi-mortality	16.53 (±0.94)	13.91 (±1 .05)	20.98 (±2.42)	20.23 (±2.28)

Table II. Risk scores in overall population, and in each treatment subset. The interventionnal group appears to be the highest risk subset
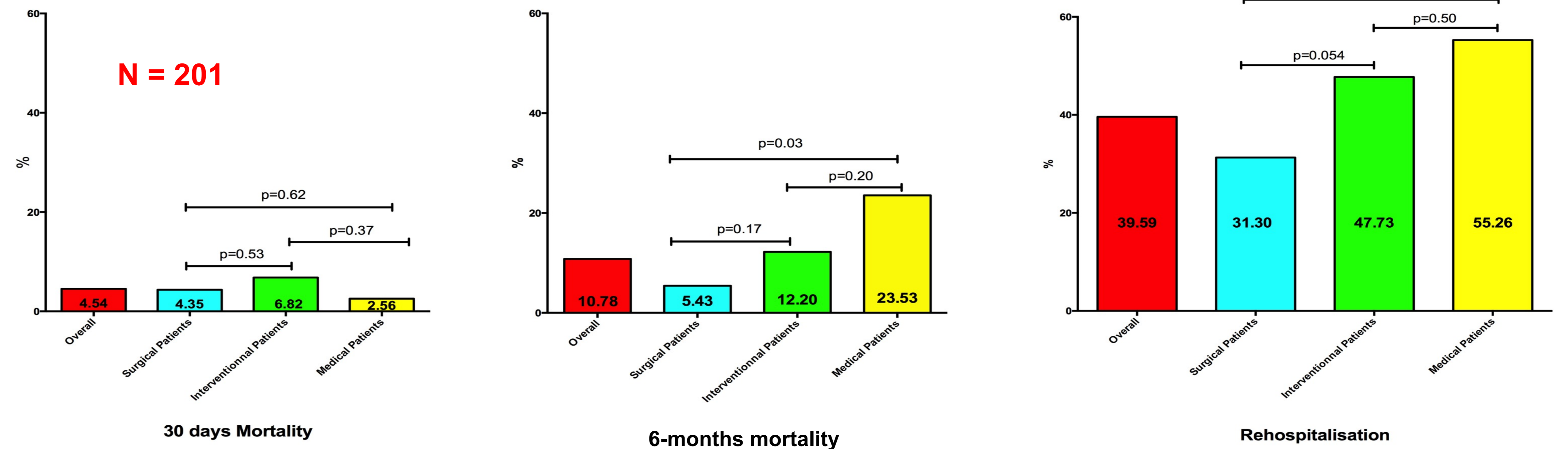

N = 201

Figure 1: 30-days and 6-months mortality, and rehospitalisation rates, in overall population, and in each treatment subset.
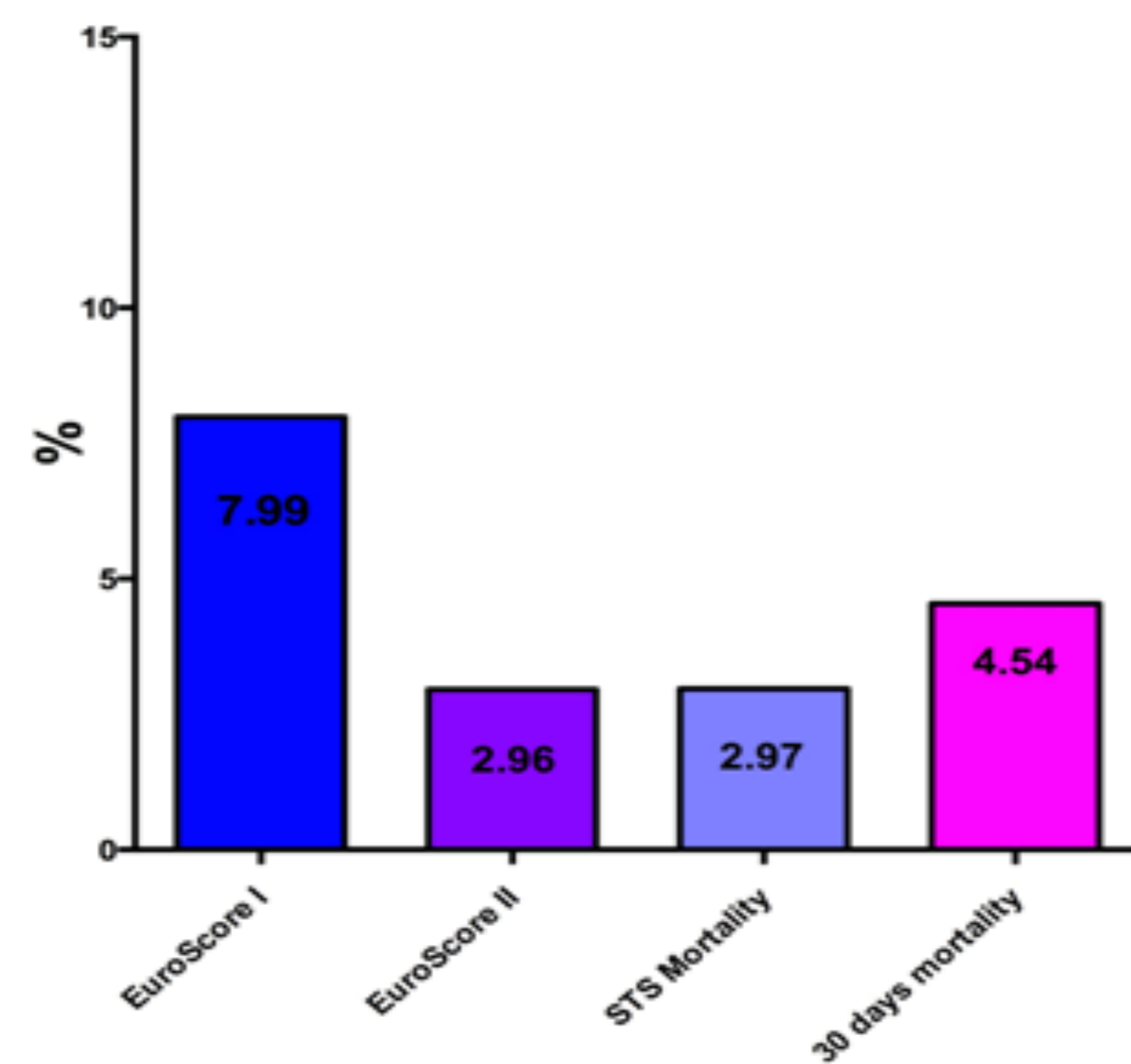

Figure 2: Real life vs. score-predicted 30-days mortality

Conclusion

• 30-days all cause mortality of complex patients discussed by the Heart Team was almost twice as high as what EuroScore II predicted.

• 6-months mortality of patients selected for the complex nature of their case, remains high, in particular in medically-treated patients.

Reminder.
- Calculation table of the « logistic » EuroScore I and II, giving the 30-days pre-operative predicted mortality in percent.
- Blue highlighted criteria are the ones only concerning EuroScore II, all the others are shared for the two scores.

Patient-related factors		Cardiac-related factors	
		NYHA	I/II/III/IV
Age- yrs	0	Unstable angina/ CCS class 4 angina	Yes/no
Gender	M / F	LV function	Poor/moderate/good
CBPO	Yes/no	Recent MI	Yes/no
Extracardiac arteriopathy	Yes/no	Pulmonary hypertension	Yes/no No/ moderate/ severe
Neurological dysfunction	Yes/no	Operation-related factors	
Poor Mobility	Yes/no		
Previous cardiac surgery	Yes/no	Emergency / Urgency	Yes/no Elective/ urgent/ emergency/ salvage
Creat>200μmol/L	Yes/no	Other than CABG/ Weight of intervention	Yes/no Isolated CABG/ single non CABG/ 2 procedures/ 3 procedures
Active endocarditis	Yes/no	Surgery on aorta	Yes/no
Critical preoperative state	Yes/no	Post infarct septal rupture	Yes/no
Diabetes on insulin		Yes/no	