

EuroValve
April 26-27, 2018

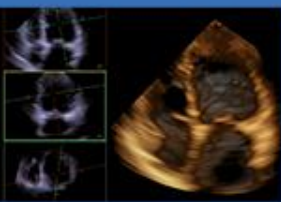


News FLASH

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www.eurovalvecongress.com



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Faculty disclosure

First name - last name

I disclose the following financial relationships:

Consultant for XYZ Company

Employee of ABC Company

Receive grant/research support from ACME Medical

Advisory board of ACE Device Company

Paid speaker for DRUG Company

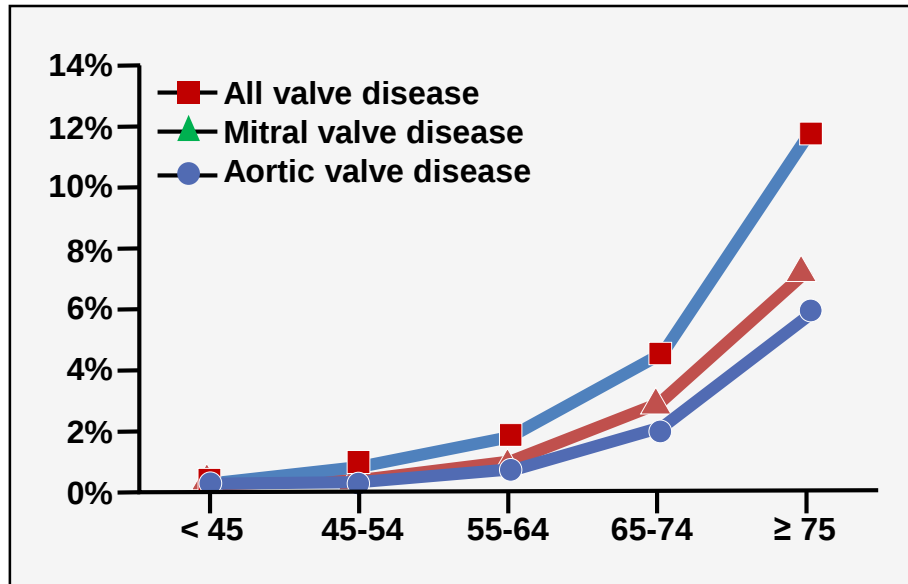
Major stockholder of ABC Company

OR I have **no financial relationships** to disclose.

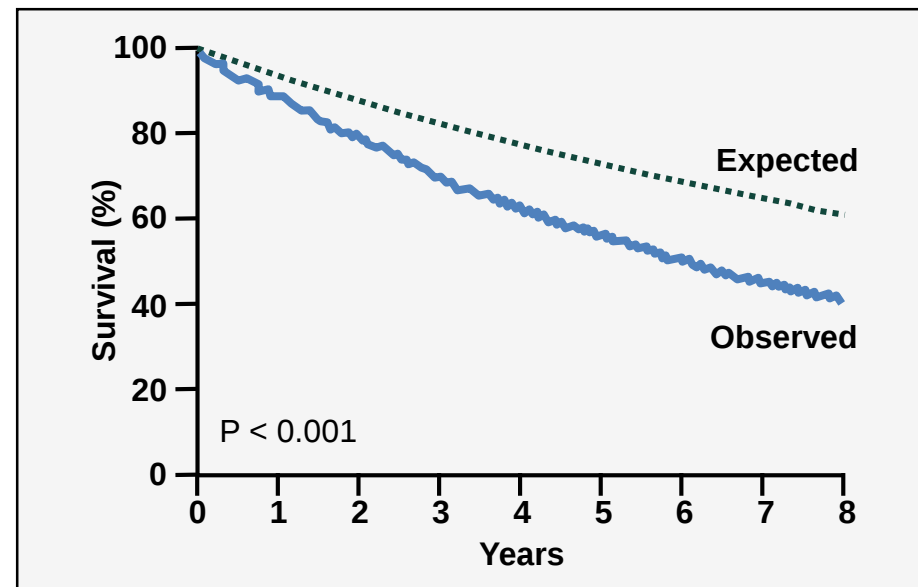
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The Burden of Valve Disease Increases

Prevalence



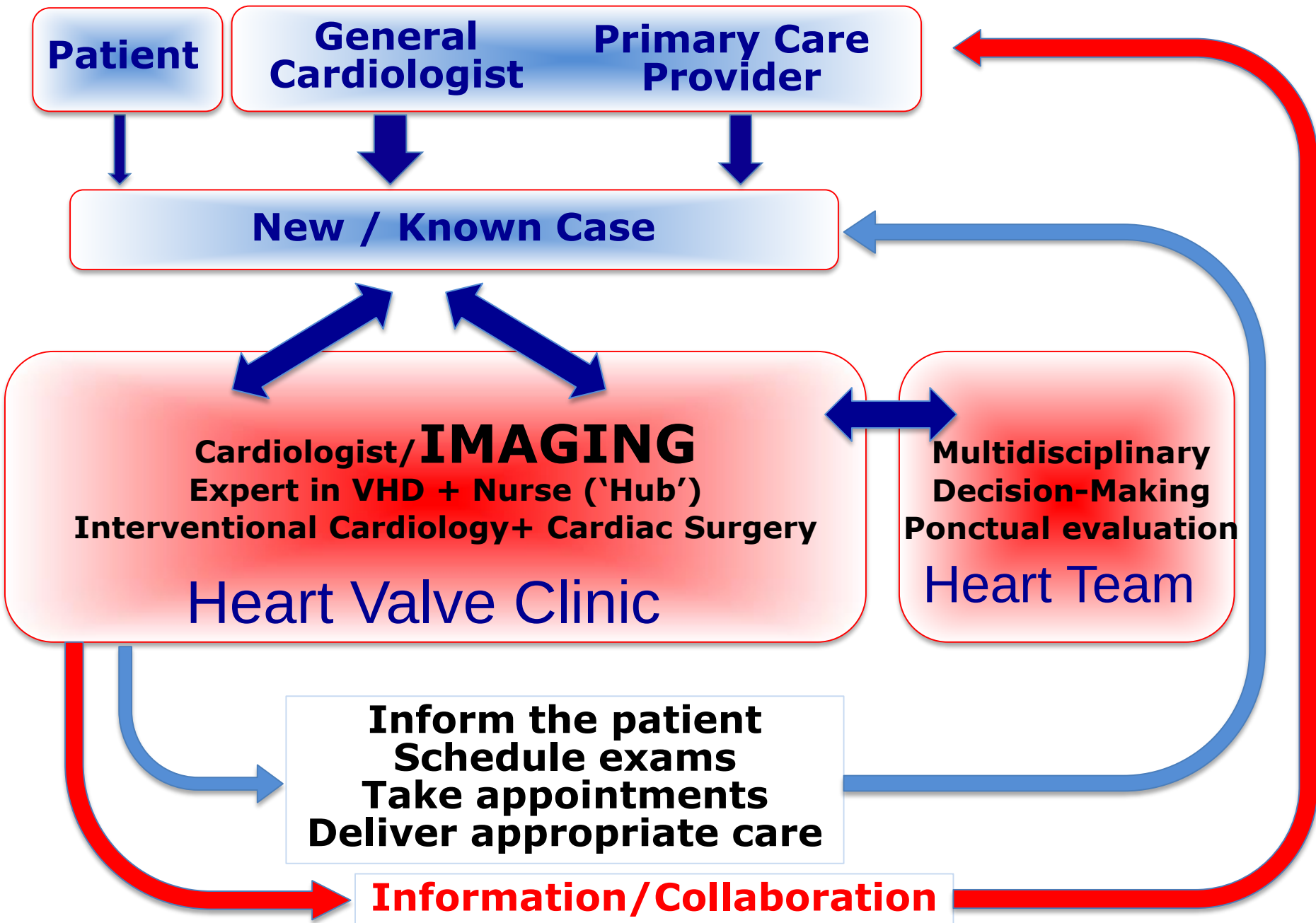
Survival



Nkomo. *Lancet* 2006;368:1005–1011

Many of these patients

- do not receive a correct diagnosis
- do not have optimized care according to current guidelines

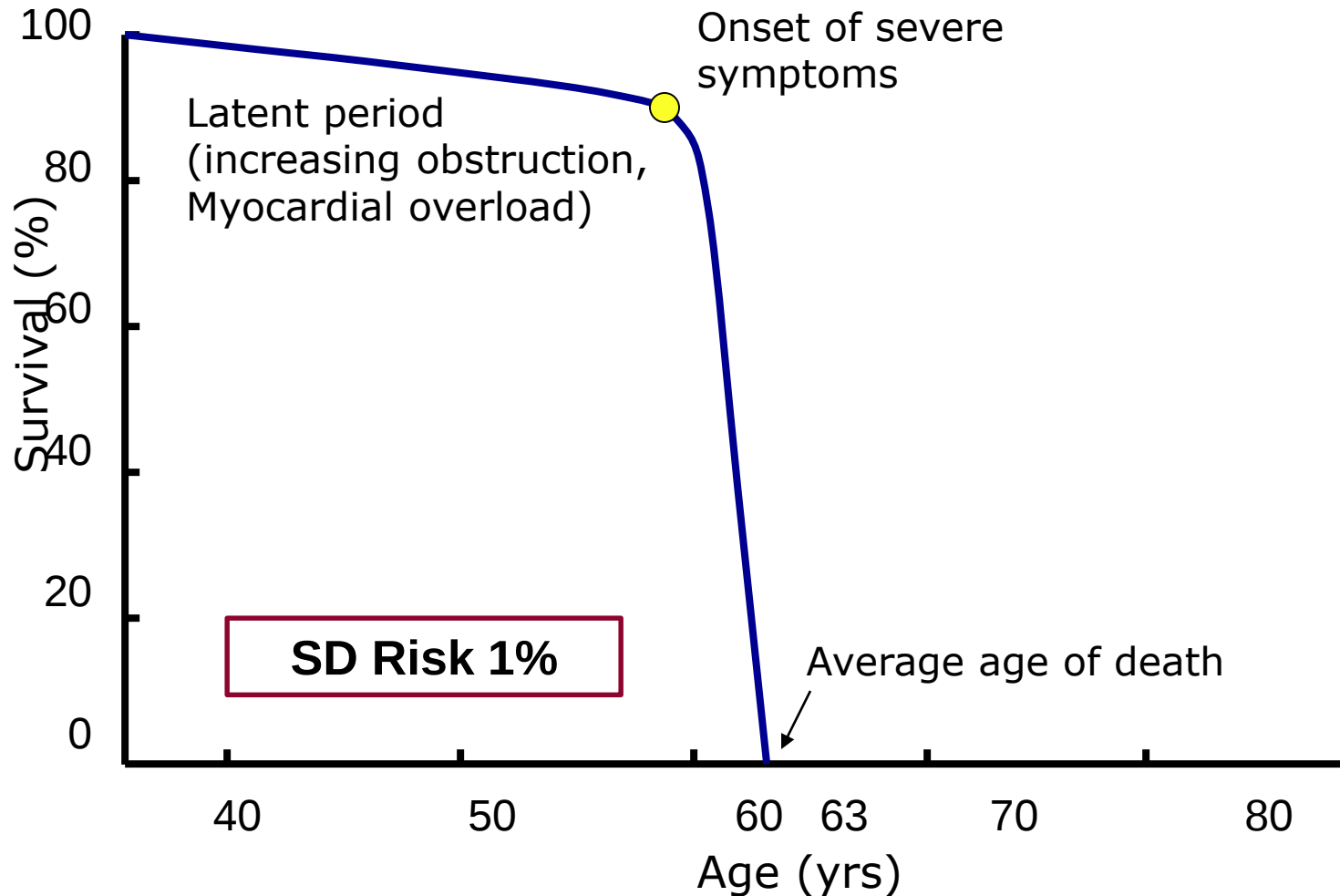


HeArt ValveE Clinic International Database (HAVEC Project)

**Framework for the creation of large
registries and the conduct of
prospective studies**

Severe Aortic Stenosis

Natural History



Ross, Braunwald
Circulation 1968

Indication for AVR in AS

SEVERE STENOSIS

+ Symptoms
+ LVEF < 50%

= AVR (Class I)

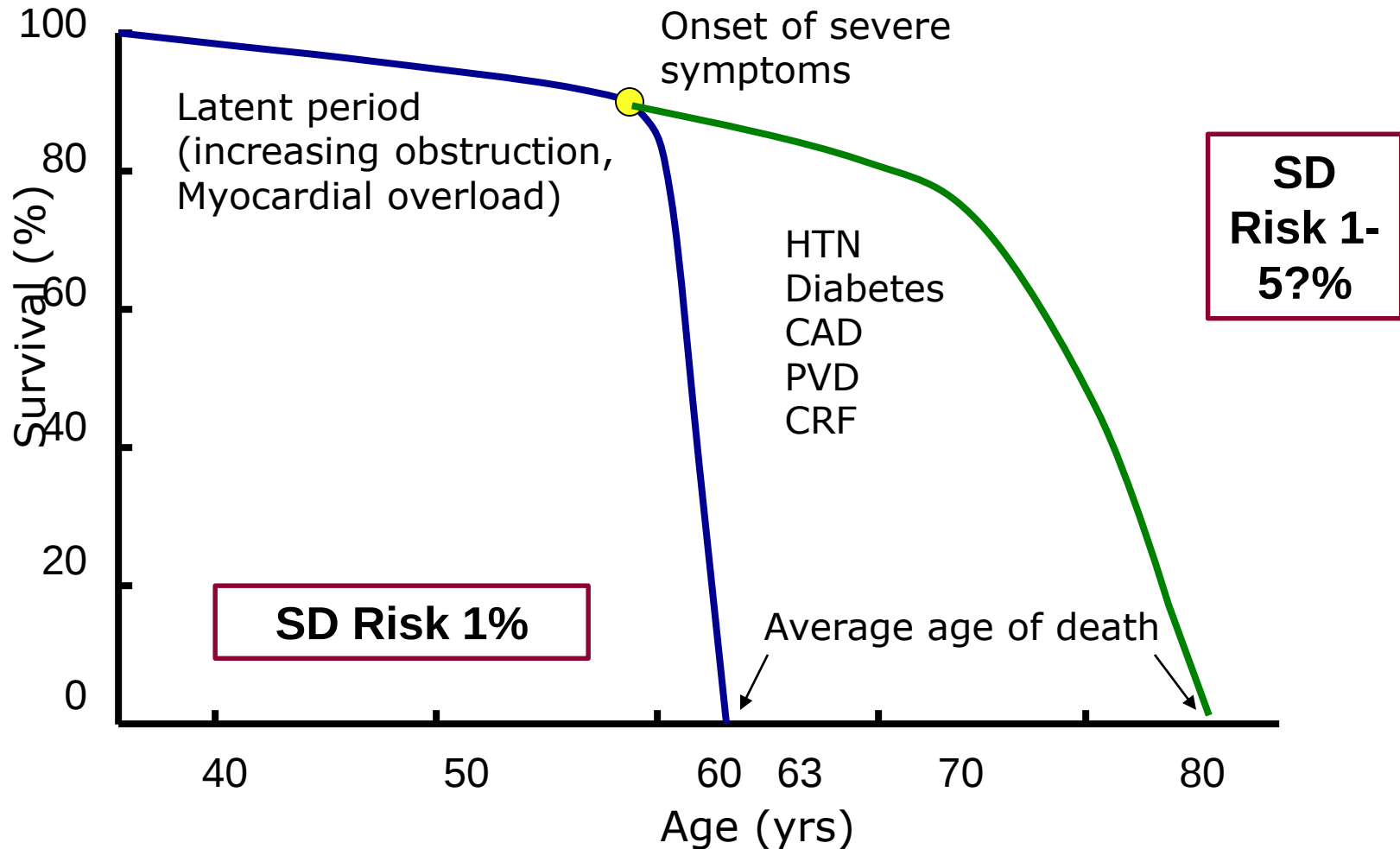
Asymptomatic pts.
+ Vel. > 5.5 m/s
+ High BNP
+ PHT

= AVR (Class IIa)

Baumgartner et al EHJ 2017
Nishimura, et al. JACC 2017

Severe Aortic Stenosis

Natural History



Objective

Determine the natural history and outcome of moderate or severe AS in asymptomatic patients followed in a Heart Valve Clinic

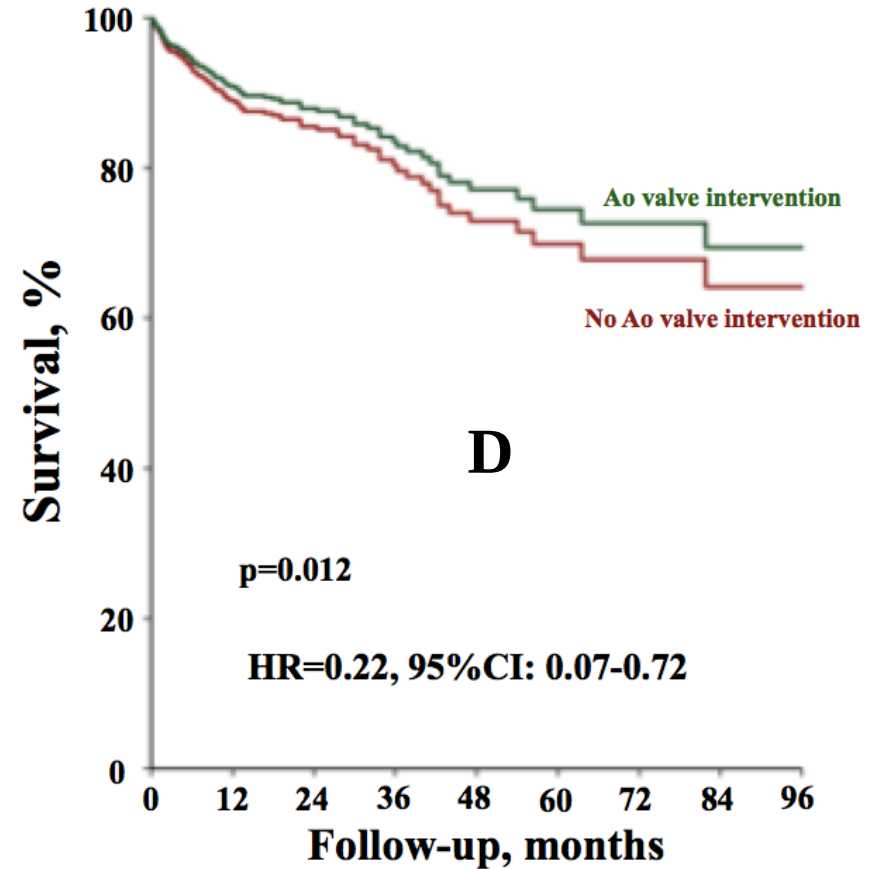
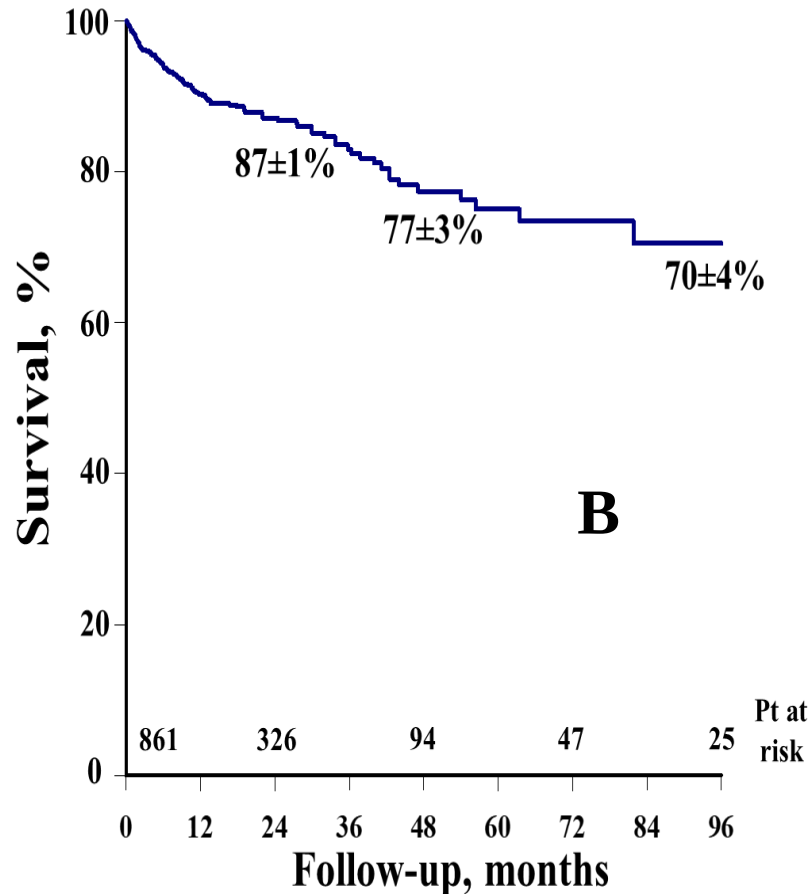
Number, follow-up duration, and clinical outcomes of patients according to participating center

Prospective merge of gathered institutional databases of 10 Heart Valve Clinics

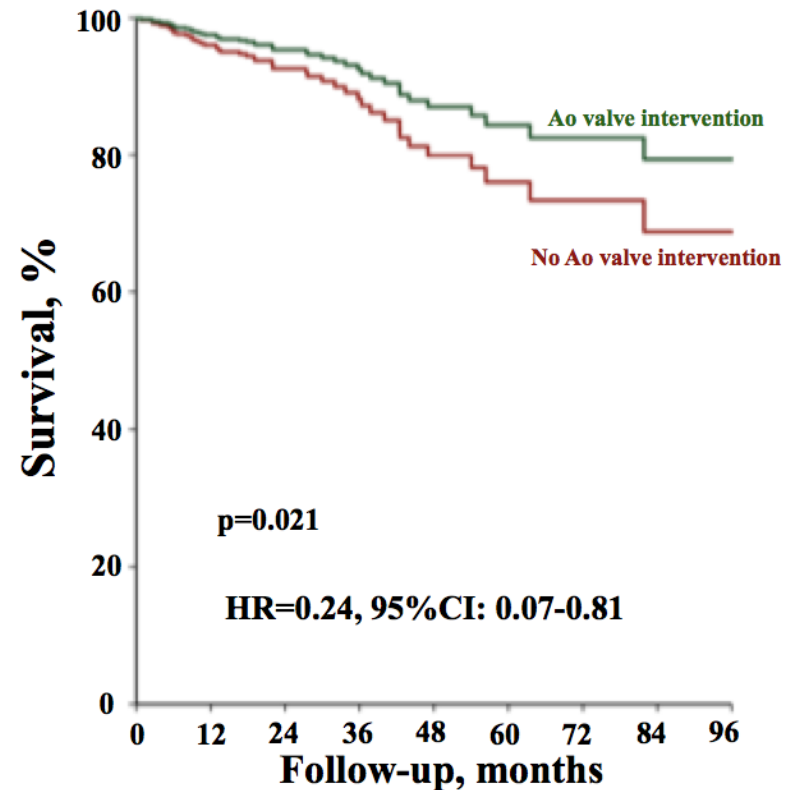
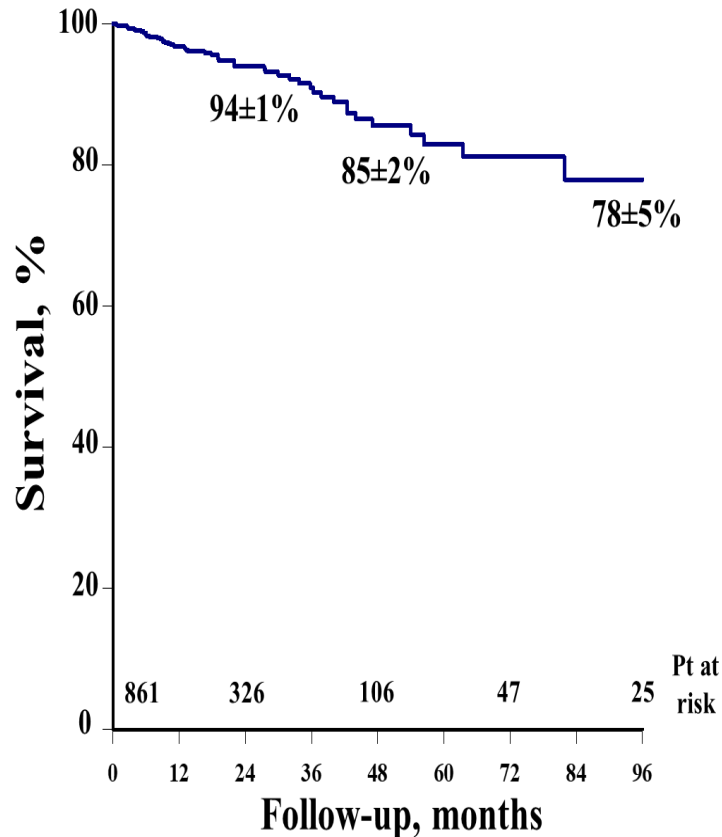
Center ID	Patients number, N= 1375 (%)	Follow-up (median), months	Cardiovascular related deaths (%)	Aortic valve intervention (%)
CN1	118 (8.6)	17.7±8.8 (19)	6 (5)	33.9
CN2	90 (6.5)	19.5±11.2 (17)	9 (10)	41.1
CN3	146 (10.6)	18.5±14.6 (17)	9 (6)	52.6
CN4	210 (15.3)	28.5±13.1 (27)	6 (2.9)	29.5
CN5	138 (10)	25.9±17.6 (23)	12 (8.6)	58.9
CN6	93 (6.7)	18.6±15.6 (17)	5 (5.4)	30.1
CN7	139 (10.1)	15.8±8.5 (13)	6 (4.3)	29.7
CN8	101 (7.3)	27.7±26.4 (12)	4 (3.9)	29.7
CN9	98 (7.1)	21±20.2 (12.5)	5 (5.1)	41.8
CN10	242 (17.6)	15.8±13.5 (12)	18 (7.3)	44.8

<1 cm² in 861, 542 (39.4%) AVR, 155 (11%) death, follow-up 27±24 months, crude rate of sudden death 0.72%

Kaplan-Meier analyses of overall survival and according to aortic valve intervention in patients severe AS



Kaplan–Meier analyses of cardiac-related mortality and according to aortic valve intervention in patients severe AS



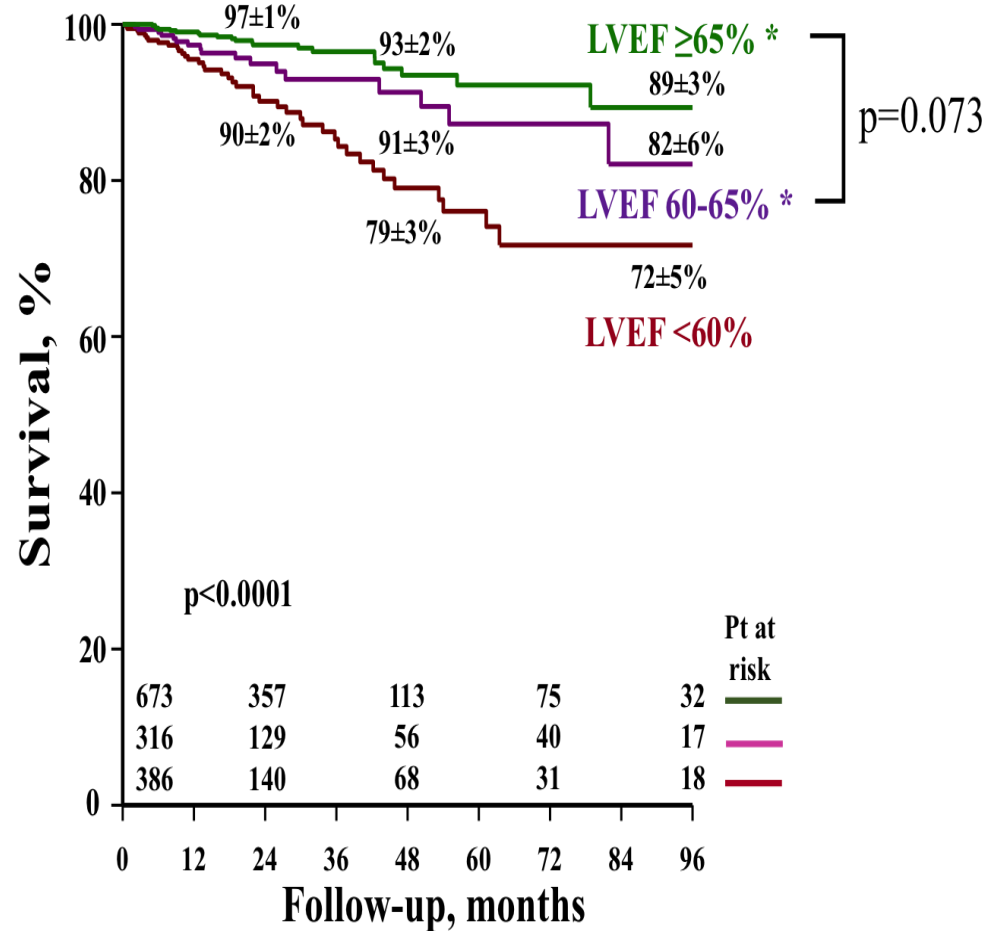
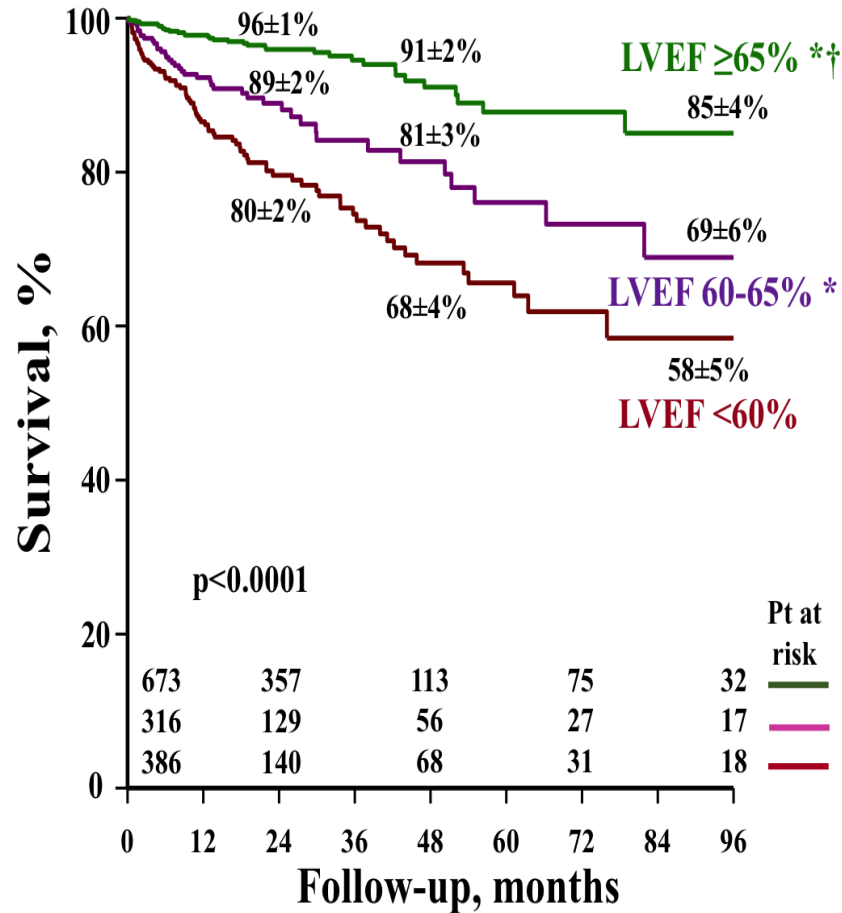
Multivariable predictors of mortality in patients with severe AS

111 (13%) patients died, including 53 (6.1%) from cardiovascular causes (46 heart failure, 7 sudden death)

Continuous Variables	All-cause mortality			CV mortality		
	HR	95% CI	p	HR	95% CI	p
Age, per 1 year	1.02	0.99-1.04	0.066	...	...	...
Systolic BP, per mmHg	1.02	1.01-1.03	<0.0001	...	...	...
Diabetes	1.40	0.88-2.22	0.161	2.23	1.18-4.19	0.013
Dyslipidemia	0.42	0.28-0.65	<0.0001	...	...	...
Chronic obstructive pulmonary disease	2.04	1.09-3.84	0.027	...	...	...
Peak aortic velocity, per 0.1 m/s	1.04	1.01-1.07	0.003	1.11	1.07-1.16	<0.0001
LV ejection fraction, per 1%	0.92	0.89-0.95	<0.0001	0.94	0.90-0.98	0.006
Aortic valve replacement*	0.49	0.23-1.03	0.06	0.34	0.15-0.77	0.010

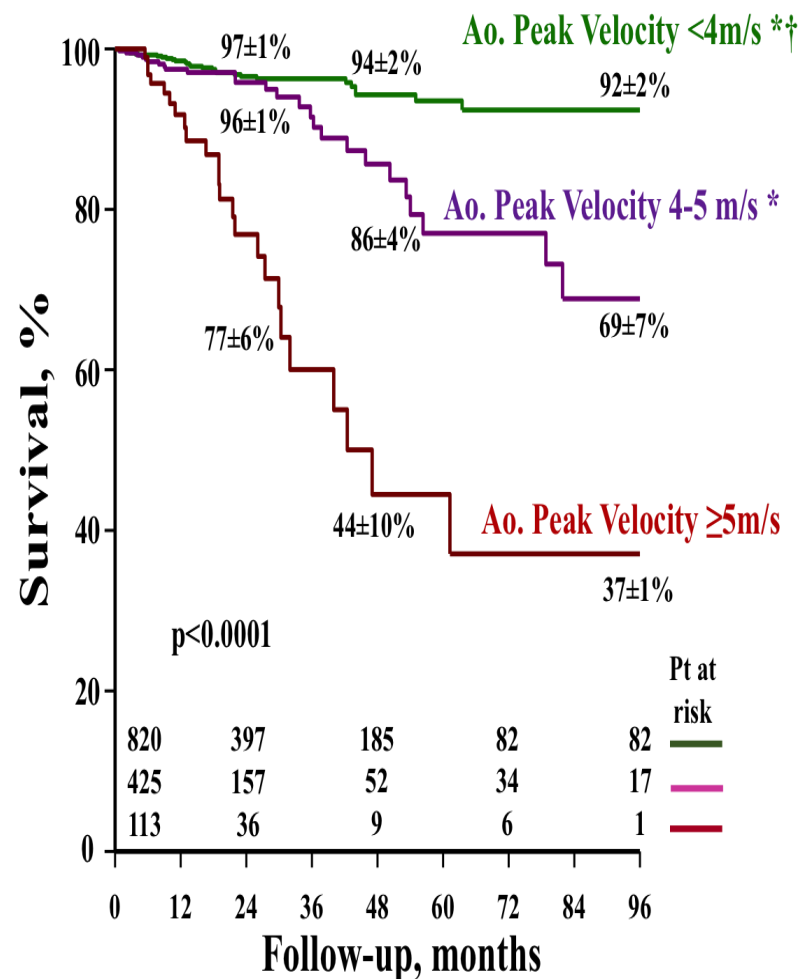
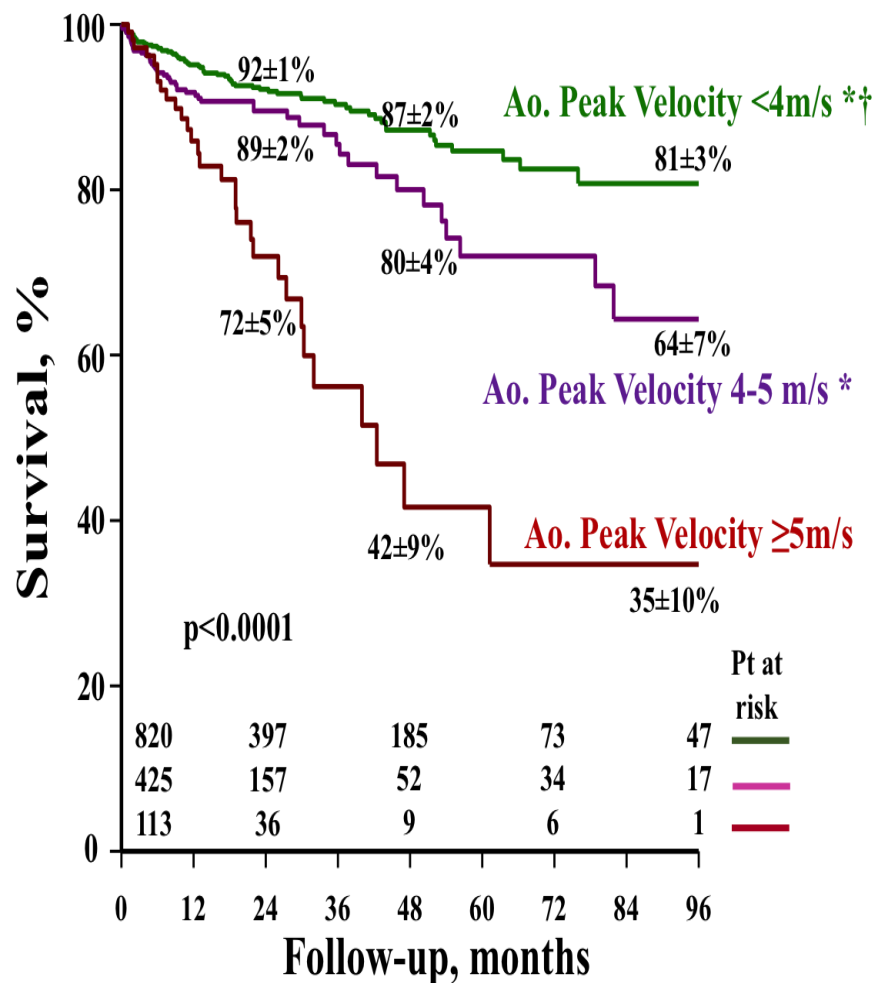
388 (45%) AVR (surgical AVR in 310), triggered by a recommendation's class I indication in 366 cases (94%), a class IIa indication in 18 (4.6%), and a class IIb in 4 (1.0%)

Kaplan-Meier analyses of overall survival and cardiovascular-related mortality in patients with severe AS as a function of LVEF



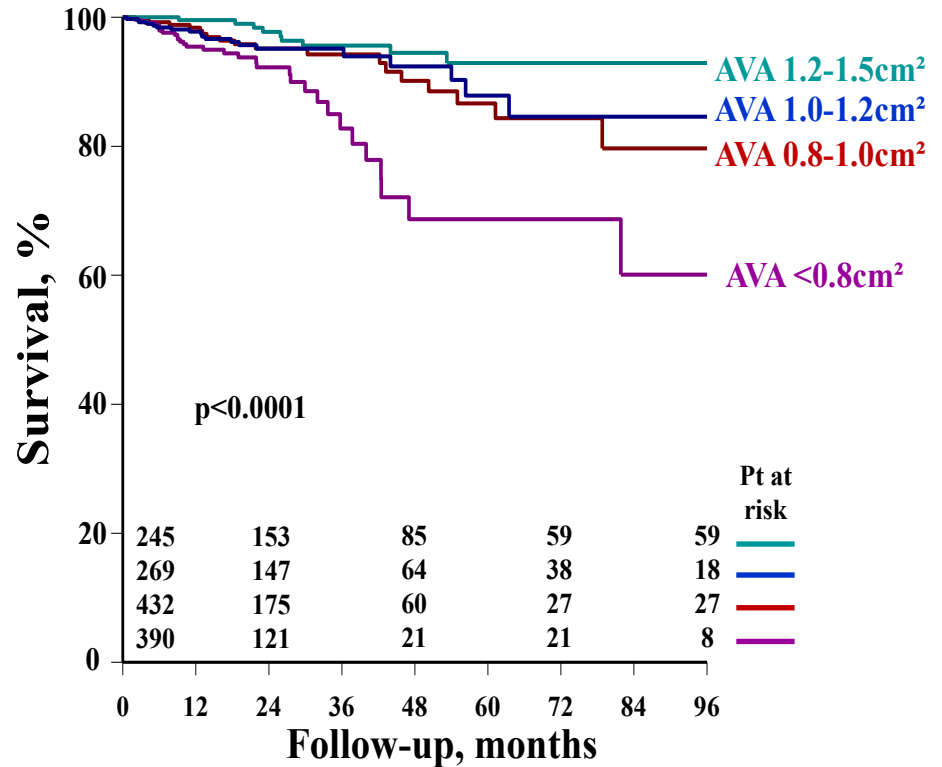
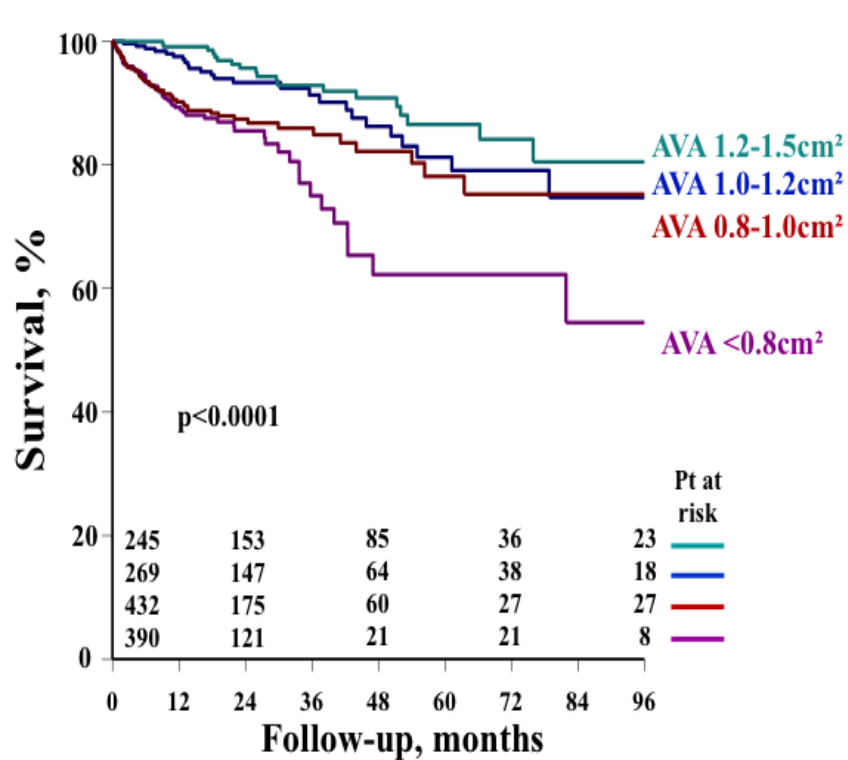
Above 60%, no EF threshold further determined survival

KM analyses of overall survival and cardiovascular-related mortality in patients with severe AS as a function of Peak Vel.



Above 5m/s, no AS severity threshold further determined survival

KM analyses of overall survival and cardiovascular-related mortality in patients with severe AS as a function of AVA



p value indicates AVA < 0.8 cm² versus others.

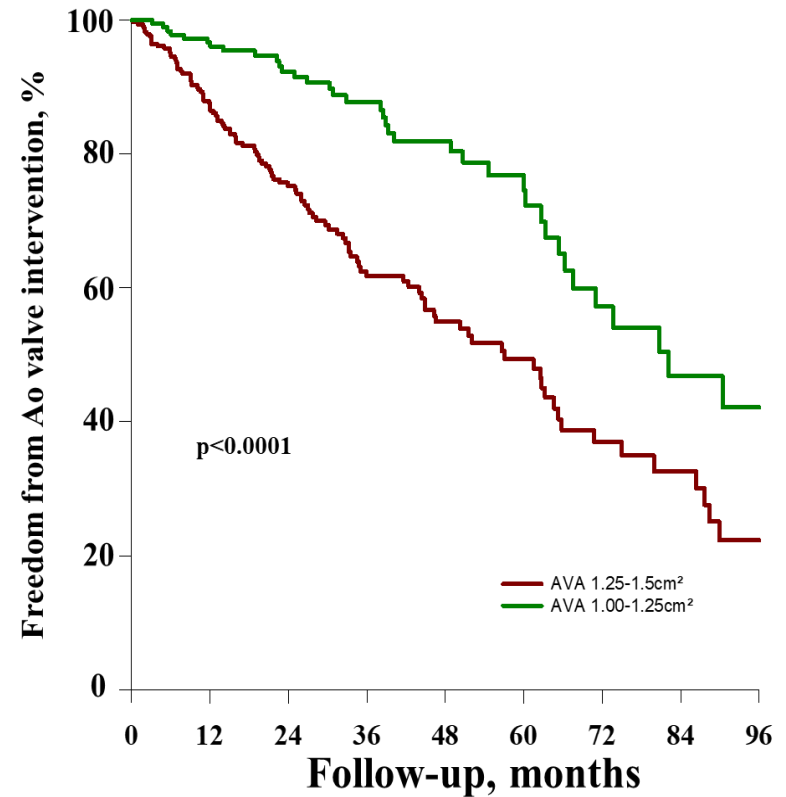
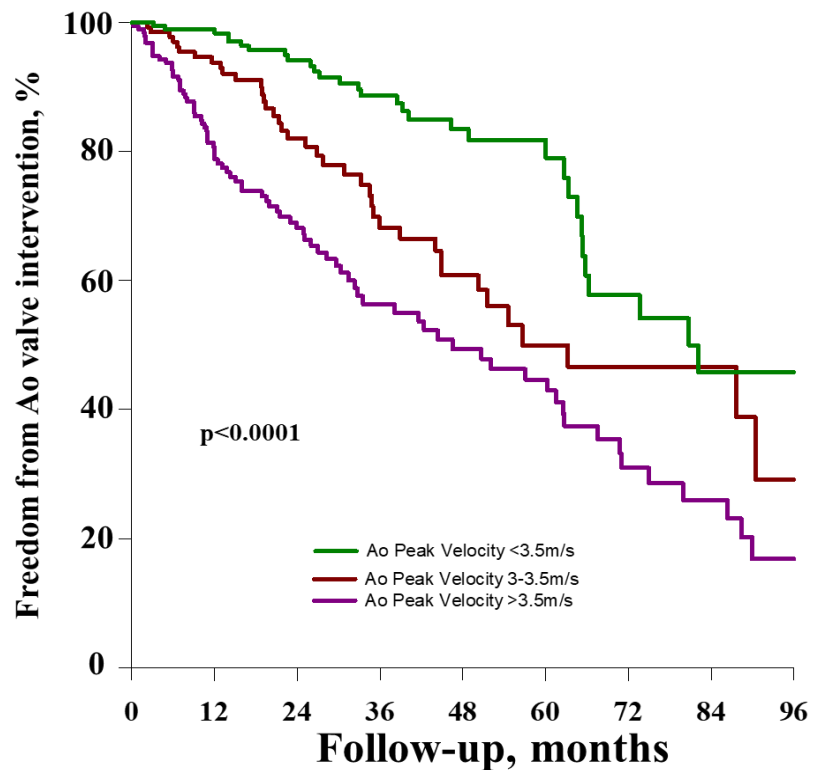
Multivariable analysis of all-cause mortality in the moderate aortic stenosis group

44 (13%,) patients died (27 cardiovascular causes including heart failure in 20, sudden death in 3)

Continuous Variables	All-cause mortality			CV mortality		
	HR	95% CI	p	HR	95% CI	p
Age, per 1 year	1.03	1.00-1.06	0.034	...	...	...
Body surface area, per m ²	0.22	0.03-1.54	0.127	0.03	0.002-0.33	0.005
Dyslipidemia	0.37	0.18-0.73	0.004	0.30	0.12-0.76	0.012
Peak aortic velocity, per 0.1 m/s	1.08	1.04-1.13	<0.0001	1.15	1.09-1.21	<0.0001
LV ejection fraction, per 1%	0.94	0.89-1.00	0.054	0.90	0.83-0.97	0.009
Aortic valve replacement*	0.12	0.04-0.40	0.001	0.05	0.01-0.39	0.004

154 (30%) AVR, 128 per class I indication, 22 per class IIa indication and 4 per class IIb indication)

Freedom from aortic valve intervention according to peak aortic velocity in patients with moderate AS



Conclusions

- In patients with asymptomatic aortic stenosis followed-up in Heart Valve Clinics, the risk of sudden death is low
- The rates of all-cause mortality compares favourably with those reported in previous series.
- Patients with peak Ao Vel. ≥ 5.0 m/s or LVEF $< 60\%$ have markedly increased risk of all-cause and cardiovascular mortality even after AVR. These patients should be considered for prophylactic intervention.
- Closer and more frequent (every 6 to 12 months) clinical and echocardiographic follow-up might be implemented in patients with moderate AS and a peak aortic jet velocity ≥ 3.5 m/s or a LVEF $< 60\%$.