" Severe asymptomatic aortic stenosis: Is the early valvular replacement safe? "

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INTRODUCTION

- There is controversy about the best therapeutic strategy in severe asymptomatic aortic stenosis given the risk involved in submitting an asymptomatic patient to cardiac surgery.

- The risk of treatment has not been thoroughly assessed. There are proposed or ongoing trials to answer this question (AVATAR, ESTIMATE, EARLY-TAVR)

- The objective was to evaluate early (30 days) and late (10 years) morbidity-mortality for valve replacement based on symptoms.

METHODS

- Retrospective comparative case-control single center study.
- N = 1269 patients between May 2003 - May 2018.
- Isolated aortic valve replacement in an elective manner were included.
- Patients were stratified to whether they were asymptomatic (Cases Group, n = 257) or symptomatic (Control Group, n = 1012)
- The primary endpoint was 30-day and 10-year morbidity and mortality.

GOODNESS OF FOLLOW-UP

STS/EACTS Latin America Cardiovascular Surgery Conference 2018
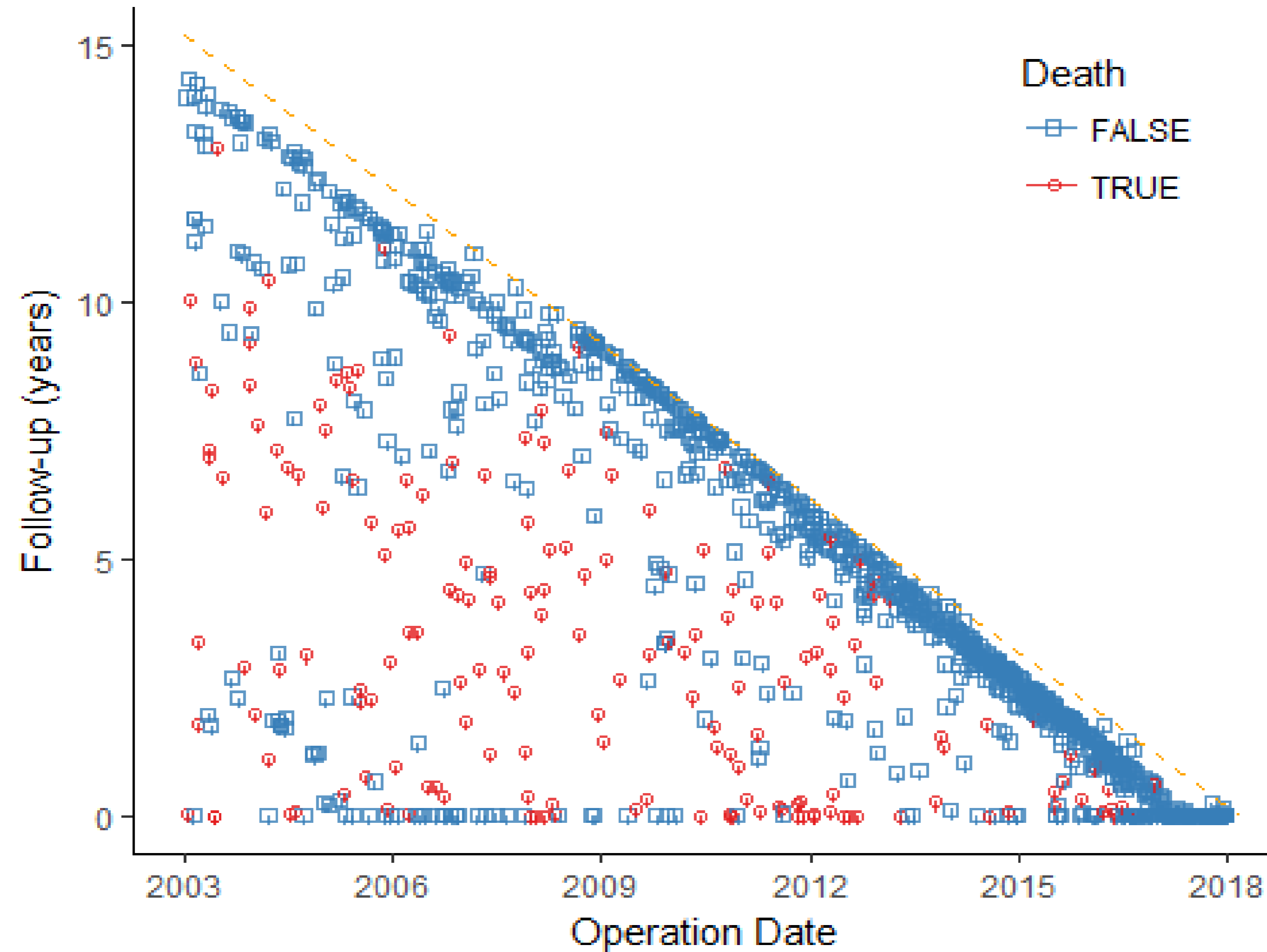
METHODS – BASAL CHARACTERISTICS

	Non-Adjusted				Propensity matched - Risk-Adjusted		
	Symptomatic	Asymptomatic	p		Symptomatic	Asymptomatic	p
n	1012	257			252	252	
Age (median [IQR])	**70.00 [62.00, 76.00]**	**65.00 [54.00, 72.00]**	**<0.001**		66.00 [54.00, 73.00]	66.00 [55.00, 72.00]	0.67
Woman (%)	**445 (44.0)**	**82 (31.9)**	**0.001**		79 (31.3)	82 (32.5)	0.848
Weight (mean (sd))	78.51 (15.78)	77.90 (14.65)	0.573		79.84 (15.45)	77.98 (14.76)	0.168
Heigth (mean (sd))	166.80 (9.58)	169.65 (10.43)	<0.001		169.34 (9.52)	169.43 (10.32)	0.914
Previous MI (%)	**42 (4.2)**	**2 (0.8)**	**0.014**		1 (0.4)	2 (0.8)	1
Previous PCI (%)	**66 (6.5)**	**7 (2.7)**	**0.029**		4 (1.6)	7 (2.8)	0.542
Previous AVR (%)	7 (0.7)	1 (0.4)	0.916		1 (0.4)	1 (0.4)	1
Previous CABG (%)	**42 (4.2)**	**3 (1.2)**	**0.034**		1 (0.4)	3 (1.2)	0.616
Peripheral VD. (%)	7 (0.7)	1 (0.4)	0.916		1 (0.4)	1 (0.4)	1
COPD (%)	**78 (7.7)**	**9 (3.5)**	**0.025**		10 (4.0)	9 (3.6)	1
Previous Stroke (%)	43 (4.2)	7 (2.7)	0.346		7 (2.8)	7 (2.8)	1
RF / dialysis(%)	53 (5.2)	8 (3.1)	0.208		7 (2.8)	8 (3.2)	1
Previous Anemia (%)	143 (14.1)	11 (4.3)	<0.001		13 (5.2)	11 (4.4)	0.834
HBP (%)	695 (68.7)	165 (64.2)	0.195		166 (65.9)	164 (65.1)	0.925
Smoker / Former- (%)	452 (44.7)	120 (46.7)	0.608		121 (48.0)	119 (47.2)	0.929
Diabetes Mellitus (%)	**145 (14.3)**	**21 (8.2)**	**0.012**		21 (8.3)	21 (8.3)	1
Family History(%)	86 (8.5)	30 (11.7)	0.145		44 (17.5)	28 (11.1)	0.056
Sinus Rythm (%)	**928 (91.7)**	**247 (96.1)**	**0.023**		238 (94.4)	242 (96.0)	0.53
LV dysfunction m/s (%)	**96 (9.5)**	**12 (4.7)**	**0.019**		15 (6.0)	12 (4.8)	0.692

RESULTS – POSTOPERATIVE MORBIDITY MORTALITY

	Non-Adjusted				Propensity matched - Risk-Adjusted		
	Symptomatic	Asymptomatic	p		Symptomatic	Asymptomatic	p
n	1012	257			252	252	
Death (%)	33 (3.3)	4 (1.6)	0.214		9 (3.6)	4 (1.6)	0.261
CBP time (mean (sd))	93.41 (35.36)	100.33 (37.43)	0.006		95.37 (39.33)	99.22 (35.97)	0.254
Prothesis Size (mean (sd))	22.57 (2.13)	23.02 (2.27)	0.005		22.84 (2.18)	22.97 (2.21)	0.537
Postoperatory MI (%)	3 (0.3)	2 (0.8)	0.587		0 (0.0)	2 (0.8)	0.479
Postoperatory Bleeding (%)	105 (10.4)	19 (7.4)	0.187		23 (9.1)	19 (7.5)	0.629
Surgical Bleeding (%)	49 (4.8)	11 (4.3)	0.83		12 (4.8)	10 (4.0)	0.827
Low Cardiac Output (%)	50 (4.9)	6 (2.3)	0.1		7 (2.8)	6 (2.4)	1
Postoperatory AFib(%)	267 (26.4)	44 (17.1)	0.003		58 (23.0)	44 (17.5)	0.15
AV block / PM (%)	71 (7.0)	11 (4.3)	0.147		12 (4.8)	11 (4.4)	1
Dialysis (%)	16 (1.6)	1 (0.4)	0.238		4 (1.6)	1 (0.4)	0.369
Stroke (%)	9 (0.9)	1 (0.4)	0.678		1 (0.4)	1 (0.4)	1
Non-dialytic renal failure (%)	122 (12.1)	37 (14.4)	0.364		28 (11.1)	36 (14.3)	0.349
Hospital Stay (mean (sd))	8.31 (8.54)	6.18 (2.51)	<0.001		7.78 (10.18)	6.16 (2.52)	0.015

RESULTS – KAPLAN- MEIER LONG TERM SURVIVAL (10 YEARS)


Entire Cohort Survival
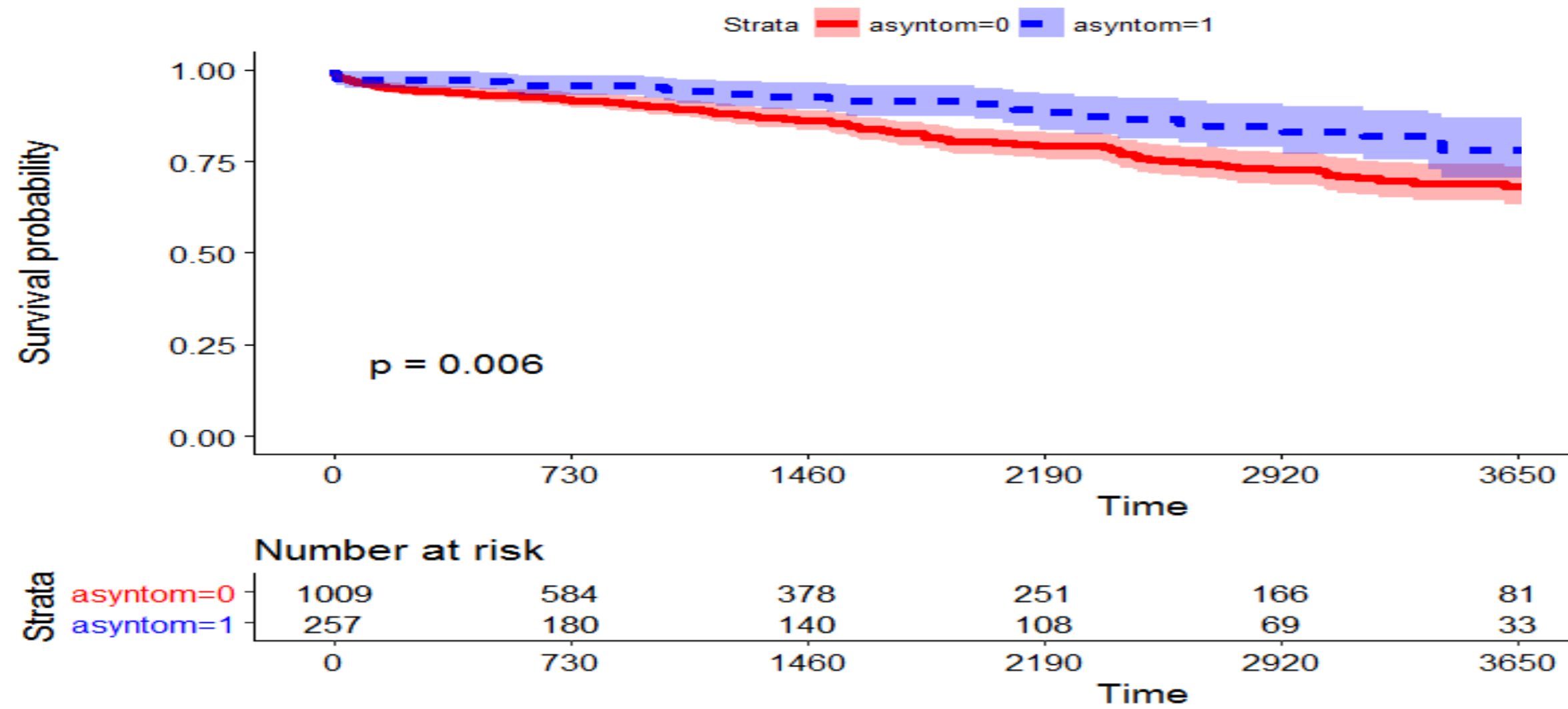
Propensity-matched Survival
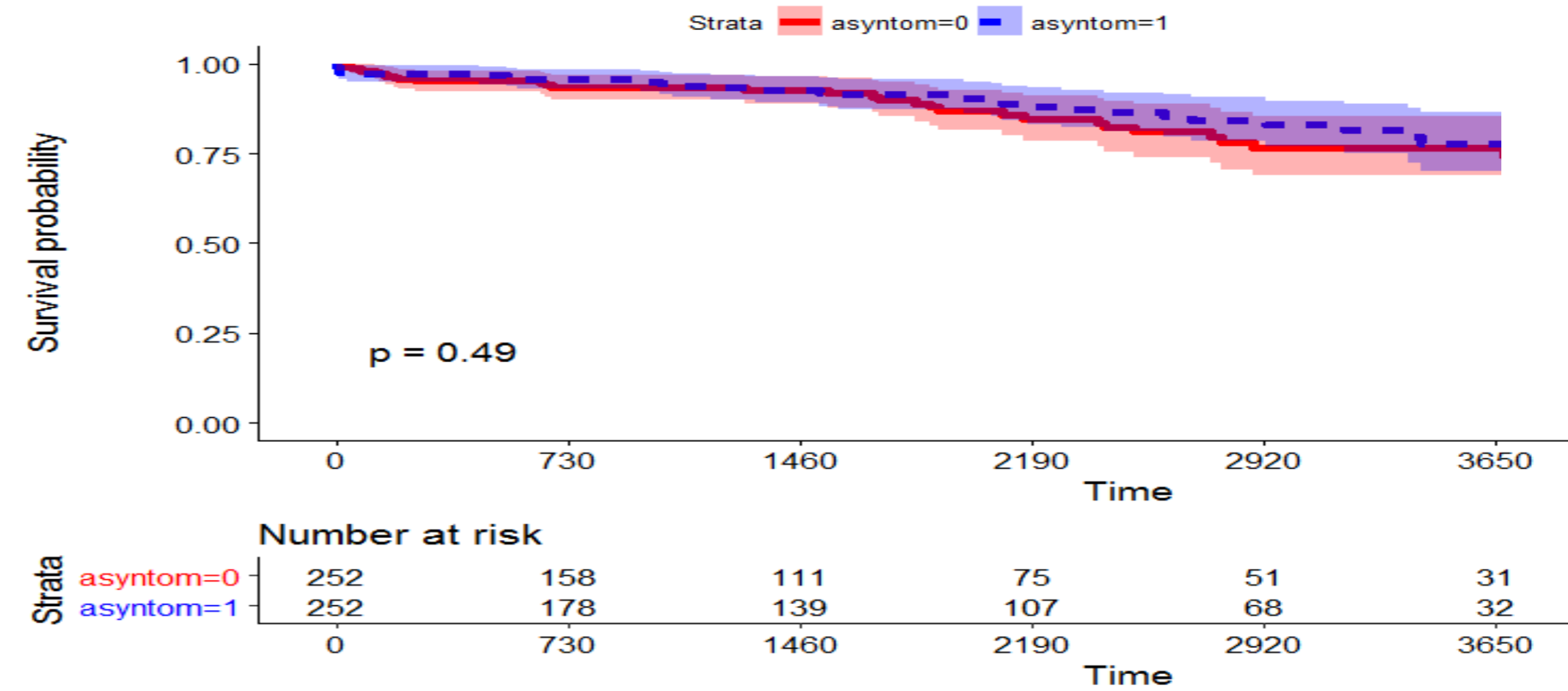
RESULTS – MULTIVARIABLE PREDICTORS OF MORTALITY
(Cox proportional hazard model)

	HR	95% CI for HR		p
		Lower	Upper	
Age	1.085	1.065	1.105	< 0.001
CPB time	1.008	1.004	1.013	< 0.001
Redo	2.257	1.320	3.858	0.003
Dialysis	2.231	1.258	3.955	0.006
Asymptomatic	0.803	0.525	1.228	0.312

RESULTS - NON-PARAMETRIC AND NON-LINEAR SURVIVAL ANALYSIS (RANDOM SURVIVAL FOREST)
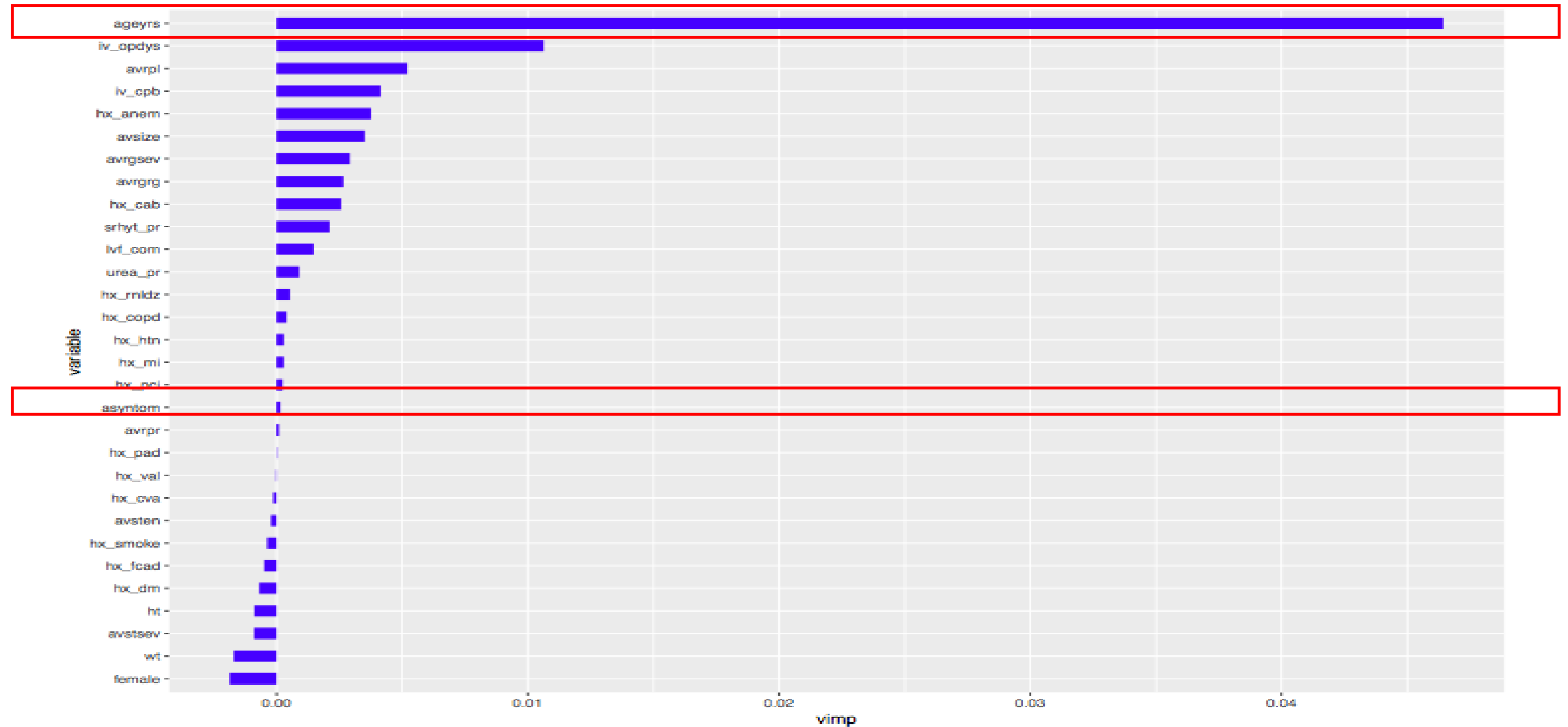
CONCLUSION

- Aortic valve replacement in asymptomatic patients is safe in terms of early mortality (~ 1.6%) and distant survival (> 87% at 10 years) which is similar to those with symptoms at the time of surgery.

- Age at time of surgery is a strong predictor of mortality. Operate earlier could benefit on late survival.