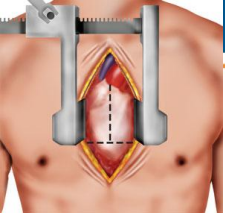


Geriatric factors associated with one year mortality after aortic valve replacement

Dr Anne Sophie Boureau

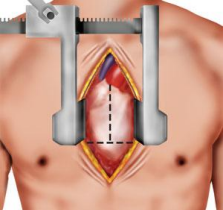
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CONFLICT OF INTEREST DISCLOSURE

I have no potential conflict of interest to report

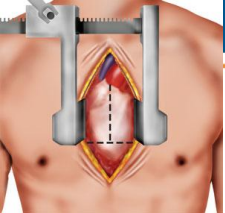


Mortality after AVR

Table 2 Predictors of mortality after aortic valve replacement

Late	Age	2.48 (1.91–3.23)
	Chronic obstructive pulmonary disease	1.43 (1.09–1.89)
	Diabetes mellitus	1.75 (1.34–2.29)
	Cerebrovascular disease	1.71 (1.23–2.37)
	Renal failure	3.38 (1.99–5.72)
	Body mass index, mean	0.97 (0.95–0.99)
	History of congestive heart failure (%)	1.52 (1.19–1.96)
Saxena et al. [15]	Left ventricular ejection fraction <0.45	1.35 (1.01–1.82)
	NYHA class III/IV	1.40 (1.09–1.80)

Other cardiac factors as pulmonary hypertension, concomitant cardiac surgery, coronary disease.



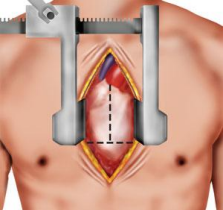
Geriatrics factors and SAVR

First Author, Journal, year	Population	Geriatric factor
Afilalo et al., JACC, 2010	131 patients Mean age: 75.8 years	Gait speed (time taken to walk 5 m of ≥ 6 sec)
Lee et al., Circulation, 2010	3826 patients Mean age : 71 years	Katz Index of Independance in Activities of Daily living or previous diagnosis of dementia
Thourani et al., Journal of Thoracic and Cardiovascular Surgery, 2011	4247 patients Mean age 62 years	BMI < 24 kg/m ²

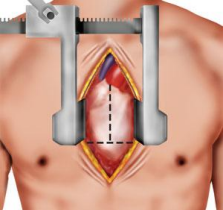
Aim of study

Identify geriatric factors associated with one year mortality after a surgical aortic valve replacement among older patients with severe symptomatic aortic stenosis.

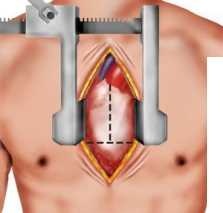
- Retrospective analysis of data collected prospectively from 2012 to 2014
- Nantes University Hospital
- Inclusion criteria :
 - Aged ≥ 75 years
 - SAVR for aortic valve stenosis +/- other cardiac surgery
 - Comprehensive pre-operative geriatric assessment



Dyspnea NHYA III or IV, n, (%)	63 (32)
Mean gradient aortic valve, mmHg, mean \pm SD	54.9 \pm 15.9
Ejection Fraction, mmHg, mean \pm SD	61.6 \pm 7.4
Pulmonary hypertension, n (%)	51 (25.9)
Coronary artery disease, n (%)	60 (30.5)
Urgency, n (%)	26 (13.2)
Concomittant CABG or other valve replacement, n (%)	72 (36.5)
Prior cardiac surgery, n (%)	15 (7.6)
Logistic EuroSCORE, mean \pm SD	11.4 \pm 7.4
EuroSCORE 2, mean \pm SD	4.5 \pm 4.8
Chronic lung disease, n (%)	23 (11.7)
Cerebral disease, n (%)	18 (9.1)
Diabetes, n (%)	4 (2.0)
Peripheral artery disease, n (%)	22 (11.2)
eGFR, ml/min, mean \pm SD	61.3 \pm 17.3



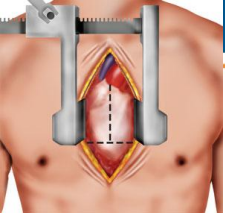
Characteristic	Overall
Age, years, mean \pm SD	81.3 \pm 3.5
Male, n (%)	95 (48.2)
CIRS-G, mean \pm SD	8.5 \pm 2.8
Body mass index, kg/m ² , mean \pm SD	27.3 \pm 4.6
Mini Nutritional Assessment, mean \pm SD	23.8 \pm 2.9
Mini mental status exam, n (%)	29 (14.7)
Frontal assessment battery, n (%)	125 (63.5)
Risk of depression, n (%)	13 (6.6)
Activities of daily living, mean \pm SD	5.9 \pm 0.4
Instrumental activities of daily living, mean \pm SD	6.6 \pm 1.5
Timed Up and Go test, n (%)	30 (15.2)



Multivariate analysis

Factors associated with one year mortality	HR (95% IC)	p-value
Pulmonary Hypertension	3.73 (1.05-13.33)	0.04
Concomitant CABG or other valve replacement	6.22 (1.17-32.98)	0.03
Prior cardiac surgery	10.47 (1.27-86.49)	0.03
Mini-mental status exam	4.67 (1.09-20.13)	0.04

(Cox regression model)

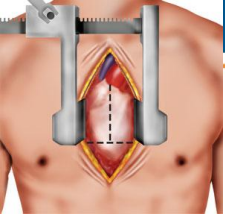


Discussion

- Cognitive impairment
 - Studies on long term cognitive decline, but not on mortality
 - Associated with post-operative delirium, and delirium associated with mortality

Variable	Hazard ratio	95% Confidence interval	<i>P</i> value
Delirium (yes)	3.023	1.748–5.228	<.001
Age (per 1 year)	1.006	0.976–1.036	.710
Female (yes)	0.580	0.329–1.023	.060
Society of Thoracic Surgeons predicted risk of mortality score (per 1 unit)	1.099	1.054–1.146	<.001

(Maniar *et al.*, J Thorac Cardiovasc Surg, 2016)

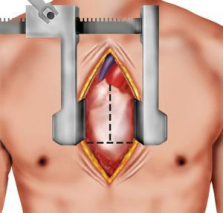


Discussion

- Gait function:
 - No study with Timed up and Go test
 - Previous study with gait speed

(Afilalo et al., JACC, 2010)

- Nutritional status:
 - Very few malnourished patients



Limitations

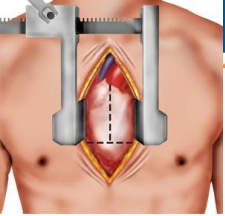
- Inherent to a retrospective analysis
- Single institution
- CGA results known by all practitioners including surgeons

Strength

Results consistent with previous studies :

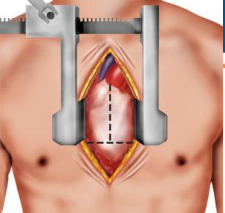
- One year mortality rate (9,6%)
- Cardiac predictors associated with mortality

(Brennan et al, Circulation, 2012
Di Eusanio et al, J Thorac Cardio Surg, 2011)



Messages

- First study including all geriatrics factors
- Association between cognitive impairment and one year mortality after SAVR



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DEVELOPING PREVENTIVE
ACTIONS IN GERIATRICS