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Early and late outcomes after trans-catheter aortic valve implantation in patients with previous thoracic irradiation

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Background Thoracic radiation therapy exposes to aortic stenosis and surgery is associated with high morbi-mortality rates. Trans-catheter aortic valve implantation (TAVI) may represent an interesting alternative, but experience remains limited in this setting. We compared late outcome in a Radiation group and a matched population undergoing TAVI and identified predictive factors of late survival.

Methods Between October 2006 and April 2011, 288 consecutive patients underwent TAVI in our institution, of whom 27 had previous chest radiation. They were matched 1:1 on age, sex and TAVI approach with a control population of 288 patients who underwent TAVI in our institution, of whom 27 had previous chest radiation. Both groups were well balanced regarding the additional value and therefore the use of exercise-stress echocardiography for risk-stratification of asymptomatic patients with AS.

Results Among the 121 patients enrolled, 35 (29%) had an abnormal exercise test (ocurrence of symptoms or abnormal blood pressure profile during exercise) and were operated on within the following weeks. Eighty-six patients (mean [ quadrantiles]; age 67 [57-75] years, 68 male, mean gradient 46 [35-52]mmHg, aortic valve area 0.97 [0.82-1.11] had a normal exercise test and 39 (48%) reached the clinical endpoint during follow-up (17.5 [10.9-36.4] months). The proposed threshold of 18mmHg mean gradient increase had no prognostic value. In multivariate analysis, rest mean gradient (p<0.001; HR 1.07 [1.03-1.11]) but not exercise-induced increase mean gradient (p=0.4; HR 0.69 [0.29-1.65]) were predictive of outcome.

Conclusion Exercise-induced increase in mean gradient was not predictive of outcome in patients with normal exercise-test. Our results raise question regarding the additional value and therefore the use of exercise-stress echocardiography for risk-stratification of asymptomatic patients with AS.

The author hereby declares no conflict of interest

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Prognosis of cardiac valve interventions among indigenous populations: a retrospective cohort study in New Caledonia

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Introduction Data on the management of valvular heart disease is scarce in the Pacific, a region where rheumatic heart disease remains endemic.

Methods Were included patients presenting to the single tertiary centre in New Caledonia and who underwent heart valve surgery for the first time (2005-2010). Clinical, echocardiographic, surgical data and outcomes were collected in 2013. We explored potential factors associated with major cardiovascular events as a composite endpoint.

Results Among the 180 patients included, 95 (52.8%) were male; mean age was 48.2 years (±19.3), 124 (78.9%) were Pacific islanders, 122 (70.9%) presented in heart failure (70.9%) and 125 (69.4%) had rheumatic heart disease. Eighty-four patients (46.7%) received a mechanical prosthetic valve. Median follow-up was 4.7 years (IQR 3.5-6.7). Early postoperative mortality rate was of 2.8%. The incidence of annual mortality was of 31.75% (95% CI 19.77-43.72); including 25.7% cardiac death; 95 CI 15.01-36.55). The annual incidences of stroke and severe bleeding were 38.23% (95% CI 24.07-52.39) and 36.54% (95% CI 22.49-50.58), respectively. We did not identify factors associated with outcomes according to the aetiology (rheumatic heart disease versus other) or the procedure (mechanical prosthetic valve versus other).

Conclusion In the Pacific heart valve interventions are mainly performed in young patients with underlying rheumatic heart disease. Post-operative mortality is low but morbidity remains high.

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Assessment of left ventricular filling pressure in severe aortic stenosis: a comparison of echocardiographic and catheterization data

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Introduction The non-invasive assessment of left ventricular (LV) filling and LA pressure in patients with aortic stenosis (AS) remains challenging. The aim of our study was to identify the echocardiographic parameters that may predict elevated pulmonary capillary wedge pressures (PCWP) mea-