Left ventricular assist devices (LVAD) are mechanical support devices for patients with end-stage heart failure. Echocardiography plays a pivotal role in different aspects including patient selection, perioperative imaging guidance, management of complication, optimisation of LVAD efficacy and assessment of ventricular recovery.¹

Post-surgical transthoracic echocardiography (TTE) evaluation should be performed for assessing overall structure and haemodynamics of left and right heart, valvular regurgitation, inflow and outflow cannula evaluation and intracardiac thrombus detection. Small LV dimensions post LVAD support, as demonstrated by marked deviation of interventricular septum towards the left side may signify excessive high pump speed. Right ventricular function evaluation after LVAD implantation is crucial as it may paradoxically worsen due to excessive LV unloading.

New-onset aortic regurgitation (AR) occurs in approximately 25%–30% of patients one year after LVAD implantation.² It not only causes adverse effects on LVAD performance but also increases future morbidity and mortality.³ Assessment of AR is technically challenging in LVAD patients. Regurgitant fraction is superior to traditional TTE parameters (e.g. vena contracta) in assessing LV filling pressures.⁴

As for cannula evaluation, high Doppler velocity >1.5 m/s at inflow may result from malposition or flow obstruction whereas low velocity may indicate inflow cannula thrombosis. Outflow graft abnormality should be suspected when the Doppler velocity >2 m/s. Although adequate anticoagulation is indicated post LVAD implantation, there is still risk of intracardiac thrombosis. The typical sites of thrombus formation include the atria, LV apex and aortic root.

REFERENCES
therapies. This lecture will provide the audience with a basic understanding of various components of the extracorporeal circuit as well as techniques of both VV and VA-ECMO.

AORTIC VALVE REPLACEMENT FOR SEVERE AORTIC STENOSIS WITH LOW EFECITION FRACTION

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In patients with severe aortic stenosis (AS) requiring aortic valve replacement (AVR), a reduced pre-operative left ventricular ejection fraction (LVEF) is one of the most meaningful risk indicators of early and late mortality. Despite this fact, AVR seems to be beneficial in the majority of patients with low LVEF.

From 2009 to 2016, we performed 304 cases of isolated AVR for severe AS. Among them, the patients with LVEF <35% (14 cases) were analysed. The pre-operative baseline characteristics of these patients were as follows: mean age 67 years±10.2; n=9 male patients (64.3%); n=8 were in NYHA functional class ≥III; mean LVEF 29%±5.4 (range, 19–35); n=3 on haemodialysis. Mortality prediction using euroSCORE II was 10.8%±13.0 (range, 1.78–47.7). There was one operative death in a haemodialysis patient with a euroSCORE II of 47.7%; the others were discharged uneventfully. During follow-up (mean 4 years±2.6), one patient with haemodialysis died due to sudden death. Latest LVEF of survivors was 58%±10.0 (range, 36–75).

Although low LVEF is a predictor of increased mortality for patients with AS, our experience showed acceptable outcomes compared with the previously reported literature.

REFERENCES


CHINESE TRANSLATION AND VALIDATION OF SCALES FOR LEFT VENTRICULAR ASSIST DEVICE (LVAD) SELF-EFFICACY AND ADHERENCE

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Left ventricular assist device (LVAD) is an alternative therapy for patients with end-stage heart failure. Patients with LVADs must manage a complex regimen of care, including activities regarding self-care maintenance (e.g., activities related to lifestyle and LVAD system operation), self-care monitoring (e.g., monitoring for LVAD device/system and complications), self-care management (e.g., handling alarms).

Emerging data have indicated the increasing use of LVAD among patients in the Chinese-speaking population. Instruments that specifically measure self-efficacy for and adherence to LVAD care regimen are required to identify the unmet needs of patients and advance the science of LVAD care in Chinese-speaking countries. Here, we report the translation and initial validation of four measurement instruments designed to assess the self-efficacy for and adherence to the LVAD care regimen of patients and their care-givers. A validation study plan and the research and practice implications of the four measurement instruments in emerging Chinese-speaking populations are discussed.

ANY DISTINCTIVE SYMPTOM CLUSTERS AMONG PATIENTS WITH ADVANCED HEART FAILURE?

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OBJECTIVES To investigate for any distinctive symptom clusters among patients with advanced heart failure (HF) and the independent relationships with their quality of life (QoL).

METHODS This is the secondary data analysis of a cross-sectional study which interviewed 119 patients with advanced HF in the geriatric unit of a regional hospital in Hong Kong. The symptom profile and QoL were assessed by using the Edmonton Symptom Assessment Scale (ESAS) and the McGill Quality of Life Questionnaire (MQOL). Exploratory factor analysis was used to identify the symptom clusters. Hierarchical regression analysis was used to examine the independent relationships with their QoL, after adjusting for age, gender and co-morbidities.

RESULTS Patients were at an advanced age (mean 82.9 years, standard deviation 6.5). Three distinct symptom clusters were identified: the distress cluster (including shortness of breath, anxiety, and depression), the decondition cluster (fatigue, drowsiness, nausea, and reduced appetite), and the discomfort cluster (pain and a sense of generalised discomfort). These three symptom clusters accounted for 63.25% of variance of the patients’ symptom experience. Low to moderate correlations between these symptom clusters indicated that they were rather independent of one another. After adjusting for age, gender and co-morbidities, the distress (β = -0.635, p < 0.001), decondition (β = -0.148, p = 0.01) and discomfort (β = -0.258, p < 0.001) symptom clusters independently predicted patients’ QoL.

CONCLUSION This study identified the distinctive symptom clusters among patients with advanced HF. The results shed light on the need to develop palliative care interventions for optimising symptom control for this life-limiting disease.

SUPPORTIVE CARDIOLOGY: AN INNOVATIVE PRACTICE MODEL TO INTEGRATE PALLIATIVE CARE INTO THE MANAGEMENT OF ADVANCED HEART FAILURE

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