aldosterone system antagonists which lead to SCr elevations unrelated to underlying renal dysfunction. Additionally, patients with HF are frequently malnourished with muscle wasting, in which case SCr levels may be misleading. Baseline proteinuria is associated with poor post-operative outcomes in LVAD recipients and is an easily measurable biomarker that can further help to risk stratify patients in advance of VAD surgery.⁴ While absolute thresholds of risk are difficult to define, if eligible for dual organ transplant, advanced HF patients with GFR <35 mL/min/m² are likely to derive a survival benefit from simultaneous heart-kidney transplantation rather than HTx alone.⁵

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23 STROKE OUTCOMES IN PATIENTS WITH LEFT VENTRICULAR ASSIST DEVICE

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10.1136/heartasia-2019-apahff.23

Left ventricular assist device (LVAD) has been used for end-stage heart failure both as bridge to transplantation (BTT) and destination therapy (DT) for patients not suitable for heart transplantation. Stroke is a major cause of morbidity and mortality associated with LVAD therapy. We aimed to review the incidence and outcome of stroke during LVAD therapy in Hong Kong.

Patients who had LVAD implantation from August 2010 to August 2018 for end-stage heart failure were reviewed. A total of 65 patients had LVAD implanted for end-stage heart failure (57 as BTT, 87.7%). The majority were male (n=55, 84.6%), with mean age of 49 years. Overall survival rates were 86.2% at 6 months and 79.2% at 12 months. There were 43 HeartMate IITM, 14 HeartWareTM HVADTM and 8 HeartMate 3TM implants. Twenty neurological events occurred in 18 patients with 10 cases of disabling stroke throughout the whole study period. There were 11 haemorrhagic strokes, 7 ischaemic strokes and 2 transient ischaemic attacks. Stroke and disabling stroke rates at 6 months were 20.7% and 12.1%, respectively. Disabling strokes were more common when haemorrhagic in origin (7 out of 10) and were the commonest cause of mortality in 9 out of 15 (60%) patients throughout the study period.

In conclusion, stroke remains an important cause of morbidity and mortality among Hong Kong patients receiving LVAD therapy.

24

MANAGING INFECTIONS ASSOCIATED WITH LVADS

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10.1136/heartasia-2019-apahff.24

Although left ventricular assist devices (LVADs) have revolutionised the treatment of advanced heart failure, LVAD infection (LVADI) remains a significant cause of morbidity and mortality in LVAD patients.

The International Society of Heart and Lung Transplantation defines LVADI in three categories: VAD-specific infections (pump/cannula, pocket, driveline); VAD-related infections (infective endocarditis, blood stream infection, mediastinitis); and non-VAD infections.¹

Infection should be excluded or appropriately treated by an infectious disease physician before LVAD implantation when clinically feasible. Surgical techniques such as increasing intra-fascial tunnelling and externalisation of the silicone portion of the driveline may help reduce infections.²

Besides culture tests, additional imaging, such as ultrasonography or computed tomography may be warranted if underlying abscess is suspected.³

The recommended treatment includes antimicrobial therapy, local debridement of the exit sites; surgical drainage, driveline repositioning and instalment of a wound VAC (or vacuum-assisted closure) system in patients with deep infection,⁴ surgical debridement and device exchange in the setting of persistent or relapsing blood stream infection (BSI) despite adequate antimicrobial and surgical therapy; pump exchange should be performed if feasible, in patients with persistent sepsis and instability due to device infection while heart transplant should be considered in haemodynamically stable transplant candidates with BSI.¹

The clinical manifestations and management of LVADI vary based on the type and extent of infection, and the causative pathogens. Understanding these differences is critical in making timely diagnoses and providing appropriate management interventions for LVADI.

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