



Service Priorities and Programmes Electronic Presentations

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Frailty Assessment for Patients with Advanced Heart Failure Referred for Heart Transplantation or Left Ventricular Assist Device (LVAD).

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Introduction

Frailty, as a syndrome, is defined as a “state of increased vulnerability to adverse outcomes” and reflects biologic rather than chronologic age. Frailty is more common in heart failure patients than in general population and is an area of growing interest in all facets of cardiovascular care and in the field of mechanical circulatory support. As a tertiary referral center in Grantham Hospital for heart transplantation, there has been increasing referrals for management and assessment for advanced heart failure patients for consideration of heart transplantation or LVAD. And Frailty among advanced heart failure Chinese patients in Hong Kong is unknown.

Objectives

- 1) assess the adoption of frailty score as risk assessment for patients with advanced heart failure referred for heart transplantation or LVAD.
- 2) evaluate benefits of treatment in relation to frailty in advanced heart failure patients and correlation to outcome.

Methodology

Patients referred to Grantham Hospital for consideration of heart transplantation or LVAD since May 2015 underwent frailty assessment and same was repeated every 6 months during medical follow up. If patient received heart transplantation, LVAD implantation or other cardiac surgery, frailty assessment was repeated 6 months post surgical intervention as well. Physical frailty was defined as a positive response to 3 or more of the following 5 components: weak hand grip strength, 6-minute walk test < 400m, poor appetite, physical inactivity and exhaustion. Cognitive assessment (Montreal Cognitive Assessment-Hong Kong version) and depression screening

(Hospital Anxiety and Depression Scale) were also performed with positive response being HK-MoCA score <22 and depression score ≥8 respectively. All patients were prospectively followed for death or surgical interventions.

Result

Since implementation, a total of 54 patients received a total number of 106 comprehensive multi-disciplinary frailty assessments (mean 1.96 assessments per patient). There were 34 patients had serial assessments performed which showed significant improvement in frailty score from mean 3.29 to 1.87 ($p < 0.001$) after a mean of 9.74 months (range 4-16 months) of medical optimization, physical rehabilitation, LVAD implantation and heart transplantation. Also, Chi square test showed that total frailty score ≥ 5 was associated with clinical outcomes ($p = 0.009$) including LVAD implantation, heart transplant and left ventricular reduction surgery and death. This signifies that frailty is a modifiable condition which is amendable to interventions and serial monitoring is crucial to assessing response to clinical management. It is also invaluable in guiding advanced heart failure therapy decision making.