

# 充血性心臟衰竭患者之運動耐力及其相關因素之探討

## Exercise Tolerance and Related Factors among Patients with Congestive Heart Failure

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### 摘要

運動無耐力是充血性心臟衰竭患者常見的症狀，並影響患者的生活品質。因此本研究目的在探討充血性心臟衰竭患者之運動耐力及其相關因素。本研究為一探測性相關性研究，以立意取樣法選取臺北市某教學醫院之 49 位符合選樣條件之充血性心臟衰竭患者為對象，採運動測試（包括運動強度耐力測試及運動時間耐力測試）進行資料收集。研究結果發現：（一）.充血性心臟衰竭患者運動強度耐有介於 1.8-8.3METs，平均為 4.56METs，顯示患者的體能差異性很大。運動測試終止的原因，以疲憊因素佔最多。50%之心跳儲備量（heart rate reserve；HRR）運動時間耐力平均為 768.55 秒（約 12.81 分）；90%HRR 之運動時間耐力的運動時間平均為 1717.04 秒（約 28.62 分）；全程的時間耐力之運動時間平均 1923.84 秒（約 32.05 分）。（二）.性別、活動狀態與運動耐力無顯著相關。只有年齡與 50%HRR 之運動時間耐力呈負相關。（三）.美國紐約心臟學會（NYHA）心臟功能分級與運動強度耐力、運動時間耐力呈負相關。在藥物使用方面以單獨服用血管收縮素轉換酶抑制劑（angiotensin-converting enzyme inhibitor；ACEI）藥者之運動耐力最好。本研究証實運動測試對充血性心臟病患者是一種安全、可行、有效的耐力評估方法。

### Abstract

The impact of exercise intolerance on quality of life among patients with congestive heart failure (CHF) is obvious. The purpose of this study was to explore exercise tolerance and related factors among patients with CHF. An explored-correlated design was used to guide the study. Forty-nine subjects who met the selection criteria were selected from a medical center of Taipei by purposive sampling. Data was collected by the treadmill exercise tests, with a fixed protocol and a graded protocol. Research results were shown as following: (1).The average peak VO<sub>2</sub> (exercise intensity tolerance) was 4.56 METs. The average duration of exercise tolerance was 768.55 seconds, 1717.04 seconds, and 1923.84 seconds at 50% heart rate reserve (HRR), 90% HRR, and the end of the test, respectively. (2).A significant relationship between age and duration of exercise tolerance at 50% HRR was observed. (3).The New York Heart Association (NYHA) function class, intensity tolerance of exercise and duration

tolerance of exercise were significantly correlated with each other. The findings of the study proved that the exercise testing is safe, feasible, and effective for evaluation of exercise tolerance, and should be recommended to patients with stable congestive heart failure.