

Title: Utilization of Device Therapy in a Newly Established Advanced Heart Failure Program in the Middle East

Category: Heart Failure and Cardiomyopathies

Abstract

Introduction Chronic Heart Failure (CHF) is a progressive condition that leads to poor quality of life and shortened life expectancy. It is one of the leading causes of hospitalization in the Middle East with a large burden on healthcare systems. Patients with CHF with persistent low left ventricular ejection fraction (LVEF) despite adequate medical therapy require consideration for Device Therapy (ICD or CRT-D placement). Our advanced HF program is the only one in the country to provide the full spectrum of therapies from lifestyle modification & medications to heart transplant.

Local cultural beliefs and social background dictates the decision for accepting implantable cardiac devices. Our aim is to determine the utility of device therapy in our patients with persistent low LVEF despite optimal medical therapy.

Methods: We conducted a prospective review of data acquired from our local database on CHF patients presenting with an $LVEF \leq 35\%$. Assessment of device implantation rate and reasons for non-implantation was conducted through a detailed chart review.

Results: A total of 120 patients with a baseline $LVEF \leq 35\%$ and 1 year visit were identified. Eighty-three patients (69%) had a follow up echocardiogram at 6 or 12 months. A low LVEF of $\leq 35\%$ was persistent in fifty-three patients (64%). Forty patients (75.4%) had device implantation by 12 months. (Table 1). Thirteen patients (24.5 %) did not receive a device within the first follow up year, though five patients (9.4%) received device therapy thereafter. Non-implantation of devices was mostly due to physician's discussion and decision delay. And some patients with multiple co morbidities with overall reduced life expectancy are not deemed eligible for device therapy. (Table 2)

Conclusion: The data highlights the utility of device therapy in patients with $LVEF \leq 35\%$ is sub-optimal with ample room for improvement. Early patient-physician discussion and health education should be targeted to improve utilization rates, particularly in newly established HF programs in developing countries.

Table1: Characteristics of patients with persistent $LVEF \leq 35\%$ at 1 year (N=53)

	Patients with device (n=40)	Patients without a device (n=15)
Age years \pmSD	53.7 \pm 13.9	59.6 \pm 16.6
Gender (Male)	68.4	66.7
HTN%	68.4	73.3
DM%	47.4	66.7
HLP%	60.5	60.0
Atrial Fibrillation %	44.7	26.7
Ischemic origin	45.5%	57.1%
baseline LVEF%	21.7 \pm 6.8	27.1 \pm 5.1
Follow up LVEF% 6 or 12 months \pmSD	22.8 \pm 7.0	27.9 \pm 4.9

Table 2: Reasons for non-utilization of device therapy (n =13)

Reasons	Patients Number 13 (24.5%)
Improved EF	1(7.6 %)
Refused	3(23%)
No discussion	6(46.1%)
Co-Morbidities	3(23%)