Striking difference between cardiac subspecialties during consideration for implantable cardioverter defibrillators

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Background:

Implantable cardioverter defibrillators (ICD) are effective at treating ventricular arrhythmia and thus avert sudden cardiac death (SCD). An expansive evidence base has identified those at high-risk of SCD which has been incorporated into current guidelines. Despite these indications, there is considerable variation in implantation rates across Europe. ICD therapy is not without its own risks and cost, hence a considered decision between the physician and the patient should be taken when deciding whether an ICD is appropriate.

Purpose:

The purpose of this study is to determine whether patients identified to be at risk of SCD are being considered for ICD implantation by a cardiac physician. We also look to investigate whether there are any differences between the cardiac subspecialties.

Methods:

All transthoracic echocardiograms (TTE) performed at a single tertiary centre between 1st – 30th June 2016 were retrospectively reviewed to identify patients with severe left ventricular systolic dysfunction. A cross-sectional, observational assessment of whether an ICD was considered at 1 year after the echocardiogram was documented. The cardiac subspecialty of the cardiac physician was documented.

Results:

Of the 1173 TTEs, 129 (11%) were identified to have severe LVSD. 89 patients were managed by a cardiologist. Of these, 57(59%) were managed by an ICD device implanting or heart failure (DevHF) subspecialist. The mean age was 71 years (+/- 1SD 12.5). 75% were male. 45% had ischaemic cardiomyopathy. Survival at one year was 89.9%. An ICD was not implanted due to an improvement in subsequent LV assessment (16%), the decision was deferred (13%), the patient declined (4%), or was deemed by the physician to be inappropriate (18%).

37% were not documented to have been considered for ICD implantation. Of those who were managed by a DevHF subspecialty, 75.0% had a decision regarding appropriateness for ICD considered, compared to a significantly lower proportion (45.9%) in those managed by non-DevHF subspecialists (OR 3.5, 95% CI 1.4-8.7, p=0.005). However, there was no
significant difference in survival at one-year post-TTE between these two groups.

Conclusions:

This study shows that a large number of patients are being identified during routine clinical practice as being at risk of SCD. A majority of these patients are under the care of a cardiologist. Despite being managed by a cardiologist, many of these patients are not being assessed for potentially lifesaving treatment. Amongst cardiologists, there is a significant variation in practice, with patients who are not managed by Dev-HF physicians the least likely to be referred for an ICD. The reasons why patients are not being considered will need to be identified and whether this affects mortality in longer term follow-up should be visited in future work.