Patients managed by non-cardiologists are less likely to be assessed for implantable cardioverter defibrillators

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Background:
Implantable cardioverter defibrillators (ICD) are effective in treating ventricular arrhythmia and thus averting sudden cardiac death (SCD). Studies have expanded evidence on ICD benefits in patients at high SCD risk thus broadening the indications for this therapy. 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. Left ventricular systolic dysfunction (LVSD) forms the main risk stratification parameter when considering an ICD for primary prevention.

Purpose:
The purpose of this study is to determine whether patients identified to be at risk of SCD are being considered for ICD implantation. We look to determine whether there are any differences between patients managed by cardiologists compared to those managed by non-cardiologists.

Methods:
All transthoracic echocardiograms (TTE) performed at a single centre within a one-month period were retrospectively reviewed to identify patients with severe LVSD. A cross-sectional, observational assessment of whether an ICD was considered at 1 year after the echocardiogram was documented. The specialty of the consultant responsible for the patient’s care was documented as either a cardiologist or a non-cardiologist.

Results:
There were 1173 TTEs performed with 129 (11%) identified to have severe LVSD. 89 (69%) patients were managed by a cardiologist. The mean age was 75 years (+/- 1SD 12.6). 71% were male. 41% had ischaemic cardiomyopathy. Survival at one year was 78%. The reasons an ICD was not implanted were: (1) improvement in subsequent LV assessment (12%); (2) the decision was deferred (9%); (3) the patient declined (2%); (4) deemed by the physician to be inappropriate (18%).

47% of potentially eligible patients were not documented to have been considered for ICD implantation. Of those who were managed by a cardiologist, 63.9% had a decision regarding ICD considered, compared to a significantly lower proportion (30.0%) of those managed by non-cardiologists (OR 4.0, 95% CI 1.8-8.8, p=0.001). Survival at one year was significantly higher in
patients managed by cardiologists compared to non-cardiologists (89.9% vs. 52.5%, OR 8.1 95% CI 3.2-20.4, p<0.001).

Conclusions:
A TTE is a widely available cardiac investigation that is requested by a diversity of specialties. This study shows that a large number of patients are identified to have severe LVSD during routine clinical practice and therefore may be candidates for an ICD. However, many of these patients are not documented to have been formally assessed for potentially lifesaving ICD. The reasons why patients are not being considered will need to be identified and whether this affects mortality in longer term follow up will need to be evaluated in future work.