

DEVICE THERAPY

ICDs in patients with a DNR order

In a study of implantable cardioverter-defibrillators (ICDs) explanted from deceased patients, more than half of the patients with a 'do not resuscitate' (DNR) order had active devices in their last 24 h of life, and one-quarter of these patients received at least one shock during this period. Kinch Westerdahl *et al.* believe their study "highlights the need for addressing the problem of ICD shocks during end-of-life care".

Although ICDs are implanted to prevent sudden cardiac death, patients with ICDs often die from other causes. Indeed, in this study population, 13% died as a result of arrhythmia, 37% of patients died from heart failure, 10% died from other cardiac causes, and 38% died from noncardiac causes. ICD shocks can be painful and cause anxiety, and these stresses are unnecessary when death is known to be imminent.

Of the 125 explanted ICDs analysed, 65 (52%) came from patients who had an active DNR order in their medical records. The ICD shock therapy programme was

still turned on in 42 (65%) and 33 (51%) of these patients 24 h and 1 h before death, respectively. Ten patients with an active DNR order received at least one shock within the last 24 h of their life.

One of these patients receiving 42 shocks during this period.

"Leaving the device active in a DNR patient risks unnecessary shock treatment that is not in line with the patient's goals of care," highlight the investigators in their study report. "Health care professionals have to ensure that the dying process includes as little pain, anxiety and distress for the patient as possible and to make a great effort to identify the key medical issues, which include unnecessary ICD therapy and possible prolongation of the process of death."

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Original article Kinch Westerdahl, A. *et al.* Implantable defibrillator therapy before death: high risk for painful shocks at end of life. *Circulation* doi:10.1161/CIRCULATIONAHA.113.002648