Time for remote deactivation of implantable cardioverter-defibrillators

We read with interest the *CMAJ* article on deactivation of implantable cardioverter-defibrillators by Dr. Wan and colleagues.[1] We concur that unwanted implantable cardioverter-defibrillator shocks can lead to substantial distress in the last weeks or months of life in patients with terminal illnesses. In our own experience in a large academic centre in Canada, a substantial 18.3% of patients with a terminal diagnosis received a shock in their last month of life.[2] In addition, deactivation of implantable cardioverter-defibrillators as part of end-of-life care was not performed in most patients with terminal diagnoses, with only 32.7% of patients undergoing device deactivation after a terminal diagnosis was established and the remaining patients dying with active devices in situ. We also identified a substantial time lag between a formal do not resuscitate order and device deactivation, with a mean time to deactivation of 38 days.[2]

Our current practice is for implantable cardioverter-defibrillators to be deactivated by a member of the electrophysiology team at the patient's bedside or in a specialized unit. This requirement may contribute to delays in device deactivation and interrupt the dignity of the dying process for patients. In 2020, Dr. Baranchuk and I proposed that remote deactivation be explored as a potential solution to these problems.[3] Although technologically feasible, this concept has not been investigated sufficiently, likely because of concerns related to cybersecurity and liability.[3] These concerns could be ameliorated through use of a closed-loop system that requires physical actions through a patient surrogate on site in conjunction with the remote electrophysiology team.

We believe that it is time for an open discussion of remote deactivation of implantable cardioverter-defibrillators by our professional societies, industry and cybersecurity experts, and further study of its potential positive impact on patient care in the setting of terminal illness.

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■ Cite as: *CMAJ* 2021 August 3;193:E1179.
doi: 10.1503/cmaj.79414

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Competing interests: None declared.