

The Art of Medicine

Medical ethics and the art of cardiovascular medicine

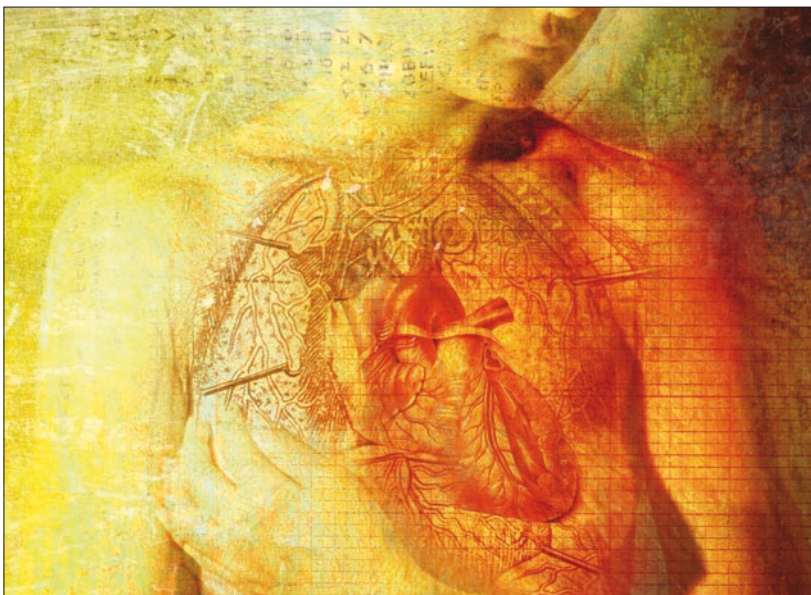
Medical ethics has always played a part in cardiovascular medicine, and yet the two disciplines seem to be rather distinct in the general consciousness. Studies have documented that cardiology journals and textbooks contained the fewest references to ethical issues of any medical subspecialty. Perhaps this finding isn't that surprising. The academic disciplines of medical ethics and cardiology are quite different.

Cardiovascular medicine is one of the most well-studied and evidence-based of the subspecialties. Cardiologists are trained to justify clinical recommendations with hard data from randomised controlled trials (RCT). We are accustomed to the iconoclasm of a new study's outcomes shattering the existing therapeutic paradigm. Take β blockers; once contraindicated for patients with heart failure, they now are a mainstay of therapy. Or the fact that a 50% blockage of the left main coronary artery reflexively produced referral for coronary artery bypass grafting in the not so distant past; now, these lesions are stented with regularity. By contrast, bioethics is far less data-driven and, traditionally, focused on the more reflective and philosophical aspects of patients' care. Instead of data, medical ethics looks to established norms and methods of reasoning to guide decisions. The ultimate evidentiary standard is not a large RCT but instead, perhaps, the decisions of a high judicial court or an indication of societal consensus. Critics may quote Leon Kass, the one time head of former President Bush's Commission on Bioethics in the USA: "Though originally intended to improve our deeds, the practice of ethics, if truth be told, has, at best, improved our speech." But medical ethics has had a

tremendous impact on medical care. Codes of ethics, ethics committees, Institutional Review Boards, advance directives, informed consent, privacy rules, and disclosure of conflicts of interest have changed the practice of cardiology, along with the rest of medicine. Medical ethics is a dynamic field, but new discoveries every few years don't usually change practice. And good reasoning, like fine wine, may even improve with age. New York appeals court Justice Benjamin Cordozo's 1914 declaration that "Every human being of adult years and sound mind has a right to determine what shall be done with his own body" can't be matched in its articulation of the basis for informed consent and advance directives.

Some might point to recent headlines detailing conflicts of interest among cardiovascular researchers, cover-ups of defibrillator failures by device companies, criminal overuse of profitable invasive procedures, and ethnic disparities in the provision of cardiovascular care as further proof of a disconnect between cardiovascular medicine and medical ethics. But medical ethics is about more than combating bad behaviour. There seems to be increasing recognition that medical ethics has a crucial role in many aspects of modern cardiovascular medicine. Ethical issues were on the agenda of the first European Meeting of Cardiology Practice held earlier this year in Italy. The HEART group of cardiovascular journal editors recently released a joint statement on ethics "to ensure transparency and honesty in the scientific process that promotes ethical conduct in the performance and publication of research". The 1989 and 1997 American College of Cardiology (ACC) Bethesda Conferences were devoted entirely to the application of ethical standards to cardiovascular practice, and the American Heart Association (AHA) joined the ACC in sponsoring a conference on professionalism and ethics in 2004. Why the apparent increased interest in cardiovascular ethics?

Although the field of medical ethics encompasses a very wide range of perspectives and applications, many involve making a distinction between what "can" be done and what "should" be done, in research and in clinical practice. The technological advances in cardiovascular medicine that have contributed so much to the reduction of cardiac mortality in the past two decades attest to the power of "can". But the practice of modern medicine involves nuances that have taken on greater importance in the face of demographic changes, complexity, and cost. Conflicts between "can" and "should" arise daily, especially in the growing subspecialty of heart failure/heart transplantation. Heart failure is a worldwide epidemic with 22 million cases. In the USA alone, there are 500 000–700 000 new heart failure patients every year. Interestingly, the booming of heart failure can largely be attributed to successful treatment of cardiac disease, at least



in developed nations. Patients who may have died quickly from acute myocardial infarctions or ventricular arrhythmias are now surviving, thanks to advances in myocardial revascularisation, antiarrhythmic drugs, and defibrillators. As a result, we now have a growing number of patients who are living with a chronic, debilitating, and costly illness. As N W Goodman put it, “we rescue people from a relatively sudden death from myocardial infarction only to inflict on them a more prolonged death from progressive heart failure”.

The management of chronic heart failure has evolved over the past few decades. In addition to a chorus of medications, clinicians use a much-expanded therapeutic repertoire of devices. Examples include implantable cardioverter defibrillators (ICDs), cardiac resynchronisation therapy (CRT), implantable monitors, ventricular assist devices (VADs), and the total artificial heart. But significant morbidity can accompany these innovative device-based therapies. ICDs are designed to prolong life, but frequent shocks can be painful and psychologically traumatic. CRT impacts both quality of life and longevity but doesn't work in about a third of patients, and CRT devices are more risky to implant than standard pacemakers. VADs improve length and quality of life, but at the expense of increased incidence of strokes, bleeding, and infection. Even without the unintended consequences, these therapies can extend patients' lives to the point of developing other diseases, such as cancer or dementia. Device management at the end of life can be ethically complex. Many patients with end stage heart failure derive quality of life benefit from their drugs and devices, but these same interventions may prolong the dying process, creating a dissonant chord in end of life care. In most cases, turning off a VAD is a terminal event. VADs actually impede residual heart function, and, therefore, turning off a VAD is not technically the same as “letting nature take its course”. Reports in the popular press and the medical literature describe the unwillingness of some doctors to disable ICDs in patients receiving palliative care, citing concerns about physician assisted suicide. Yet there are also heart-rending accounts of patients writhing with repeated ICD shocks at the point of death, while distraught family members look on.

Furthermore, the costs of new drugs and devices has a role in discussions about “can” and “should”. VADs are poised to meet the needs of many patients who are not candidates for heart transplant, or to bridge patients until a heart becomes available (there are only about 5000 donor hearts available per year, worldwide). 4 years ago, implant costs alone for VADs were estimated at £64 000 in the UK, with the total initial hospital bill running at US\$150 000 in experienced centres in the USA, not counting the cost of follow-up care. It has been estimated that expanded use of ICDs in the US Medicare heart failure population from 2003–2006 accounted for a \$774 million cost increase. The cost-effectiveness of ICD therapy for older patients has been

shown to vary widely between trials, even when using a similar metric of quality-adjusted life years. Improvements in technology and expanded indications for these devices will continue to drive increases in health-care expenses, even as technological improvements and competition bring down the cost per device. But the cost-benefit of these drugs and devices must take into account potential savings from fewer hospital admissions for heart failure. And then there is the human cost of living with heart failure. Patients with end stage heart failure experience debilitating breathlessness, light-headedness, depression, anxiety, and even pain. Symptoms initially wax and wane, then become progressively more severe and sustained. Stephen Westaby and Philip Poole-Wilson, advocating trials of VADs as permanent therapy in the UK, offered the following view: “There are no ethical dilemmas; the technology is proved and the patients have short, wretched lives.”

Of course, even if the technology was fool-proof, there would still be ethical dilemmas with VADs and with other interventions. Cardiovascular care is increasingly complicated and requires striking balances between quality of life and longevity, high-tech interventions and supportive care, an unexpected but mercifully sudden death and a prolonged but predictable disease course. The modern cardiovascular specialist must understand and explain each of these spectra, considering the individual patient's wishes and best interests, the maleficence of side-effects, and the impact of therapeutic interventions in the larger social context. This nuanced approach requires skill in the “art” of medicine.

Cardiovascular training should combine the traditional evidence-based emphasis with a new focus on medical ethics. Training cardiovascular specialists to recognise and address ethical issues may lead to more rational use of resources. There may be a reduction in conflicts in end of life care if cardiovascular practitioners participated in proactive discussions of what patients would want done. A “cardiovascular advance directive” could address important issues like pacemaker, ICD, and VAD deactivation. While general practitioners, primary care clinicians, and palliative medicine specialists can address these issues with patients, fully informed decisions require cardiovascular input. Cardiovascular clinicians don't have to become ethicists to practise good medicine, but alerting the collective cardiovascular consciousness to ethical dynamics and equipping trainees with the tools of ethical reasoning will position cardiovascular specialists to address the increasing complexity of our speciality.

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Further reading

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