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# The NICE guidelines for percutaneous epicardial catheter ablation of ventricular tachycardia: symptomatic of a guideline-obsessed health service?

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Although the risk of sudden death associated with ventricular arrhythmia in patients with structural heart disease is significantly reduced by the use of implantable cardioverter defibrillators (ICDs) these devices do not reduce the frequency of ventricular tachycardia (VT), which can result in decreased quality of life.<sup>1</sup> Antiarrhythmic agents do reduce shock frequency but their use is limited by disappointing efficacy and side effects.<sup>2</sup> Therefore, the improvement in quality of life associated with catheter ablation of VT has made this procedure even more important as use of ICDs has dramatically increased. Catheter ablation, however, remains underused with many patients having to go through episodes of VT storm and multiple ICD therapies before being referred, if they are ever referred at all. The low referral rates may be because catheter ablation of VT is considered a high risk and complex treatment; however, the short- and medium-term results are excellent when carried out at high-volume centres.<sup>3</sup> Another explanation may be the increase in ICD implantation outside main electrophysiology centres. This is undoubtedly a good thing for patients as the ICD implants are performed with few complications, patients do not have to travel and implant rates increase. There is, however, a danger that some implanting centres may not be familiar with the more complex therapeutic options available to their patients when things go wrong.

Attention has been drawn to catheter ablation of VT by the publication of guidelines by the National Institute for Clinical Excellence (NICE) examining the role of percutaneous (non-thoracoscopic) epicardial catheter radiofrequency ablation for VT (ref). It is recognised that percutaneous catheter ablation of VT in structural heart disease has some limitations, mainly that procedures are performed using an ablation catheter passed through the vascular system to the ventricular endocardium. The lesions produced by these catheters are of limited size and unless the tissue that supports the VT is close to endocardium then it will not successfully ablate the re-entry circuit. In most VT (particularly those of ischaemic origin) the tissue critical for supporting the VT circuit is endocardial or subendocardial and therefore amenable to ablation. In the 20% where this is not the case the epicardial surface can be approached either via the coronary veins, coronary arteries (using ethanol to ablate the tissue subtended by that artery) or via the pericardium. These techniques are highly specialised and practised at a handful of centres in the UK, hence few data describing their outcomes are

available. They remain a last option when conventional approaches have failed.

The NICE guidelines review the limited literature and give some guidance regarding the use of epicardial ablation for VT. They state that epicardial ablation is effective, not excessively hazardous, that doctors performing the procedure should have experience and that further studies and data should be collected. We question, however, where there is a role for guidelines for such a niche procedure lacking published data and why the guidance has been restricted to just one of the techniques available when conventional VT ablation has failed. There is no mention of epicardial transvenous approaches, use of ethanol via coronary arteries or cryoablation (effective in the pericardial space because the absence of blood warming allows very effective freezing). There are also a number of confusing of statements within the guidance. First, one of the primary guidance points is that special arrangements should be made for consent, with clinicians ensuring that patients understand the risks of potentially serious complications, including damage to the heart muscle. It is not clear what these "special arrangements" are and, furthermore, as the primary aim of ablation is to deliberately damage heart muscle the pericardial approach is no more likely to cause excessive damage than any other technique. Second, there is the statement that implanting an epicardial pacing lead via a percutaneous approach has resulted in a death. It is not made clear how this is relevant to guidance on VT ablation and it has now been confirmed that this was an anecdote supplied by one of the special advisors which has now been shown to be untrue.

It is difficult to understand how and why NICE have produced this guidance. NICE may be asked by any individual or professional group to consider a procedure of any type and it may be that they have simply been fulfilling their remit using their accepted protocols. Alternatively, healthcare funding bodies may request that NICE examine a procedure before they will fund it. Has this guidance been produced for financial reasons rather than the benefit of patients? NICE asks professional groups to recommend special advisors who can provide guidance and direct NICE to relevant evidence. In this case NICE have approached all professional bodies who are involved with cardiovascular care, even though most are not associated with this procedure. The primary recommendation of at least one of these special advisors was that this procedure was so infrequently performed that it was not suitable for such a guideline.

## Technology and guidelines

These guidelines have not highlighted a problem with NICE but an obsession within our health service to apply protocols and guidelines to every procedure and process. Guidelines are incredibly useful when they provide a balanced analysis of the available evidence and current opinion to relatively inexperienced practitioners who have to deal with a wide range of medical conditions and procedures. Guidelines, however, should not be treated as dogma and used blindly to determine the process or to justify the funding of individual patient care. NICE performs a valuable role by careful and impartial consideration of medical evidence and cost implications but it is imperative that all healthcare professionals in the UK challenge and evaluate how and why we practise medicine. If a patient has a life-threatening VT, the decision as to how to treat them will be determined by expert assessment of their condition, the risks and benefits of a particular procedure and the cardiologist's experience of performing such a procedure. The need to turn to published guidance to decide whether or not to perform such a complex procedure as epicardial catheter ablation implies that the cardiologist should not be considering offering it in the first place. It is our opinion that these particular guidelines have little value and should be withdrawn by NICE. We would welcome, however, an evaluation by NICE of the more general topic, catheter ablation of VT in structural heart disease. Such guidance would be invaluable to those centres that might look for indications on when to refer patients and, consequently, many more patients could receive this highly beneficial treatment.

**Competing interests** None.

**Provenance and peer review** Commissioned; not externally peer reviewed.

### REFERENCES

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### NICE guidance for percutaneous epicardial catheter radiofrequency ablation of ventricular tachycardia (VT)

- 1.1 The evidence for percutaneous epicardial catheter radiofrequency ablation of VT is limited to a small number of patients. The procedure is efficacious in carefully selected individuals and raises no major safety issues, in the context of a condition which is potentially life-threatening.
- 1.2 Clinicians should ensure that patients understand the risks of potentially serious complications, including myocardial damage.
- 1.3 Patient selection and treatment should be carried out only by a specialist team that includes experts in electrophysiology and ablation.
- 1.4 The procedure should only be carried out by cardiologists with specific training in electrophysiology and in accessing the pericardial space and performing complex ablation procedures.
- 1.5 The procedure should only be carried out in units with arrangements for emergency cardiac surgical support.
- 1.6 Clinicians should enter details about all patients undergoing percutaneous epicardial catheter radiofrequency ablation for VT onto the UK Central Cardiac Audit Database.
- 1.7 Further research into and publication of the outcomes and potential serious complications of this technique in larger numbers of patients is encouraged.

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