

**In patients with end-stage kidney disease requiring vascular access and cardiac implantable electronic device, the best strategy is to create an arteriovenous fistula on the contralateral upper limb for a cardiac implantable electronic device and avoidance of central vein catheter” Kuztal and Nowak (2018).**

Abstract:

For arrhythmia treatment or sudden cardiac death prevention in hemodialysis patients, there is a frequent need for placement of a cardiac implantable electronic device (pacemaker, implantable cardioverter defibrillator, or cardiac resynchronization device). Leads from a cardiac implantable electronic device can cause central vein stenosis and carry the risk of tricuspid regurgitation or contribute to infective endocarditis. In patients with end-stage kidney disease requiring vascular access and cardiac implantable electronic device, the best strategy is to create an arteriovenous fistula on the contralateral upper limb for a cardiac implantable electronic device and avoidance of central vein catheter. Fortunately, cardiac electrotherapy is moving toward miniaturization and less transvenous wires. Whenever feasible, one should avoid transvenous leads and choose alternative options such as subcutaneous implantable cardioverter defibrillator, epicardial leads, and leadless pacemaker. Based on recent reports on the leadless pacemaker/implantable cardioverter defibrillator effectiveness, in patients with rapid progression of chronic kidney disease (high risk of renal failure) or glomerular filtration rate  $<20$  mL/min/1.73 m<sup>2</sup>, this option should be considered by the implanting cardiologist for future access protection.

Reference:

Kuztal, M. and Nowak, K. (2018) Cardiac implantable electronic device and vascular access: Strategies to overcome problems. *The Journal of Vascular Access*. March 1st. .

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