



The appropriate vascular access for hemodialysis in patients with cardiac implantable electronic devices (CIED) is undefined. We describe two cases of end-stage renal disease patients with CIED and tunneled central venous catheter (CVC) who developed venous cava stenosis” Pacilio et al (2019).

Abstract:

The appropriate vascular access for hemodialysis in patients with cardiac implantable electronic devices (CIED) is undefined. We describe two cases of end-stage renal disease patients with CIED and tunneled central venous catheter (CVC) who developed venous cava stenosis: (1) a 70-year-old man with sinus node disease and pacemaker in 2013, CVC, and a Brescia-Cimino forearm fistula in 2015; (2) a 75-year-old woman with previous ventricular arrhythmia with implanted defibrillator in 2014 and CVC in 2016. In either case, after about 1 year from CVC insertion, patients developed superior vena cava (SVC) syndrome due to stenosis diagnosed by axial computerized tomography. In case 1, the patient was not treated by angioplasty of SVC and removed CVC with partial resolving of symptoms. In case 2, a percutaneous transluminal angioplasty with placement of a new CVC was required. To analyze these reports in the context of available literature, we systematically reviewed studies that have analyzed the presence of central venous stenosis associated with the simultaneous presence of CIED and CVC. Five studies were found; two indicated an increased incidence of central venous stenosis, while three did not find any association. While more

studies are definitely needed, we suggest that these patients may benefit from epicardial cardiac devices and the insertion of devices directly into the ventriculus. If the new devices are unavailable or contraindicated, peritoneal dialysis or intensive conservative treatment in older patients may be proposed as alternative options.

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#### Reference:

Pacilio, M., Borrelli, S., Conte, G., Minutolo, R., Musumeci, A., Brunori, G., Veniero, P., De Falco, V., Provenzano, M., De Nicola, L. and Garofalo, C. (2019) Central Venous Stenosis after Hemodialysis: Case Reports and Relationships to Catheters and Cardiac Implantable Devices. *Cardiorenal Medicine*. 9(3), p.135-144.

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