Stenting of coronary veins: a critical comment

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This editorial refers to ‘Rescue-stenting of an occluded lateral coronary sinus branch for recanalization after dissection during cardiac resynchronization device implantation’ by K.-J. Gutleben et al., on page 1442.

Daniel Gras was the first to describe coronary venous stenting.1 Like other authors,2,3 he used a coronary stent to fixate a coronary vein (CV) lead in a proximal vein segment when more distal placement led to intractable phrenic nerve stimulation. At the Europace meeting in Lisboa in 2007 and at the 2008 Cardiostim conference in Nice, Szilagyi et al. presented their data on venous stenting in a larger cohort. The majority of colleagues in the audience shared my concerns, which I still have: how to remove such leads years after implantation? Any lead we implant in our patients has to be removable in case it fails or becomes infected! Various manufacturers have modified the design of conventional implantable cardioverter defibrillator and pacing leads in order to provide the option of removability. If need arises, removal of a CV lead which is fixated with a stent necessitates surgical exposure of the heart. Any other technique would quickly kill a lot of these patients, because an attempt to remove such a lead by simple traction would immediately rupture the CV, which has a much thinner wall than an artery. This becomes evident when you see implanted CV leads shining through the wall of epicardial veins (Figure 1). Especially for CV lead implantation in proximal segments and in huge veins, active fixation leads (e.g. CV leads with retractable lobes or conventional screw-in leads4) should be used. Venous stenting is obsolete and dangerous in such cases.

In contrast to that, Gutleben, Noelker, Sinha, Marschang, and Ritscher used stenting to reopen a previously occluded vein. Even if experience on the long-term patency of stented segments is lacking, this appears to be an option in selected cases. But the above concerns remain valid. And that is why one needs to explore all alternatives (different target veins, implantation of epicardial leads) before deciding to proceed with venous stenting. Only this approach will minimize the risk for the individual patient.

In summary, CV stenting as described by the authors increases patient risk and can only be considered a last resort option!

References