

(LLD) system (1) by placing their emphasis on definition standards, which are indeed good communication tools (2, 3) as long as everybody understands the unique meaning that is conveyed. However, these reflect arbitrary playing with words, and each time they are used one needs to explain their meaning. We explicitly stated in the article that "Lead extraction was accomplished using simple traction for 4 atrial, 1 ventricular, and 1 coronary sinus leads (only test stylet inserted); using the locking stylet alone for 60 (47.4%) leads in 39 (58%) patients; using locking stylet aided by unpowered sheaths for 27 leads; and via a femoral approach for 1 ventricular lead", which is a clear description of our results without the need for referring to and/or explaining any definitions (1). Regarding procedural success, without using too many labels, we again explicitly explained that, "Complete removal of all leads was successful in 52 (96.3%) patients for 96 (98%) leads; partial lead removal with the retention of a lead fragment was effected in 2 patients. ... The former patient did well conservatively responding to antibiotic therapy, while the other patient preferred elective surgery over a transfemoral approach for the removal of the retained ICD lead fragment." Of course, the authors' relevant remarks and interpretation of all the above issues are welcome.

Regarding endocarditis, we mentioned in the Methods section that 9 patients experienced bacteremia and 4 patients presented with lead vegetations, which is again a clear statement without mingling with "definitions", whether one wants to refer to these 9 cases as systemic CIED infections (4) and retain the definition of lead endocarditis for the 4 cases with vegetations is a matter of semantics. Thus, among the 46 patients with CIED infection, "Positive blood cultures were detected in 9 (19.6%)... Echocardiography revealed small-/moderate-sized vegetations on the right ventricular pacing leads in 4 patients."

Regarding ICDs, 14 patients were implanted with an ICD device and 5 patients with a CRT-D (a total of 19 patients with defibrillating devices), while the count of defibrillating (DF) leads was 20 because there was 1 patient with 2 DF leads (a ventricular and an SVC DF lead). Hence, there were 6 CRT patients (5 CRT-D and 1 CRT-P patient). In response to the comment regarding the use of sedatives, we did not routinely use these, except sporadically for prolonged procedures. Regarding inconsistencies in numerical values, as explained above, there are no discrepancies except for a typographical error spotted in the Discussion section, wherein "47" should be corrected to "46" (infections). The confusion apparently relates to our referring to number of leads and the number of patients in the Tables, and numbers related to the use of tools are not mutually exclusive or additive.

Finally, we concur with the statement included in the colleagues' letter regarding the need for availability of a peripheral balloon for emergency SCV complications, and we wish to thank them for their comments.

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Lead extraction and contrast venography

To the Editor,

Manolis et al. (1) reported that percutaneous lead extraction can be successful with mechanical tools using the lead-locking device (LLD) stylet. In this prospective observational clinical study, they showed us that leads were successfully removed using simple traction and LLD stylets aided with telescoping sheaths.

Implantation of permanent pacemakers has increased with emerging technologies and use of implantable cardioverter defibrillator and cardiac resynchronization therapies (2). The increased number of device implantation and prolonged survival has led to the increase in the number of lead revision procedures. There are different lead extraction techniques that can be successfully performed in many centers. One of the mechanical lead extraction systems is the LLD system. LLD allows transmitting the manipulation to the distal tip of the lead, thereby protecting the lead integrity. However, venous stenosis may reduce the success of the procedure.

In this well-presented article by Manolis et al., it was demonstrated that lead extraction with the LLD system is simple, safe,

and inexpensive with mechanical tools and local anesthesia. However, there is no preprocedural data about contrast venography. The incidence of venous stenosis after transvenous implantation of a pacemaker varies between 20% and 50% (3, 4). Showing the venous course using a small amount of contrast may eliminate most of the difficulties (5). In the light of this knowledge, it might be beneficial to know whether contrast venography was performed before extraction.

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Author's Reply

To the Editor,

We appreciate our colleagues' feedback on our article on lead extraction using the lead-locking device (LLD) system (1) and their comment that brings up the issue about the usefulness of contrast venography in preparation for the lead extraction procedure.

As they point out, the incidence of venous stenosis or occlusion is relatively high in patients with a CIED in place, especially

in those with bulkier or multiple leads, such as in patients with ICDs or CRT devices (2). However, this poses a pragmatic problem mainly for patients needing a CIED lead revision or upgrade. In such cases, a preprocedural contrast venogram is of great value to plan the procedure, with either planning to perform an ipsilateral venoplasty, as we have also done in similar situations; or resorting to a contralateral approach for new lead insertion in cases of total venous occlusion; or using other techniques (3, 4). In the case of lead extraction, venography is not deemed necessary as the procedure relies on lead traction with the use of locking stylets, or countertraction with the use of telescoping mechanical sheaths, or laser sheaths aiding in lysis of adhesions along the endovascular/endocardial course of the lead(s). Nevertheless, some investigators have pointed out that lead extraction may be more difficult and prolonged in patients with venous occlusion, requiring more advanced tools (5). Importantly, after lead extraction, there is an additional concern about the integrity of the venous system when planning to re-implant a CIED; hence, performing contrast venography prior to the re-implant procedure proves to be of great importance and value.

We thank our colleagues for raising this important issue.

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