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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