

creased. In the literature, procedure-related complications involving loss, unsuccessful, or incomplete removal of intravascular objects have been described (1-3). However, loss of the anchoring sleeve during pacemaker implantation is extremely rare. In this paper, we report our experience of distal migration of the anchoring sleeve during ICD implantations after lead extraction procedure.

A 72-year-old man with ischemic cardiomyopathy and a left ventricular ejection fraction as low as 25% was followed up for many years. He received a dual-chamber ICD for primary prophylaxis 6 years ago. He presented with elective replacement interval and lead failure due to retraction of the atrial and ventricular lead of his ICD. The passive fixation atrial and ventricular leads were planned to be removed and single-chamber ICD implantation was planned. The lead extraction was performed in the supine position under local anesthesia and light sedation with fluoroscopy guidance via the left subclavian vein. The next generation in mechanical lead extraction TightRail™ Spectranetics system with firm steady traction the leads could be mobilized from the right atrium/right ventricular (RV) apex and removed. After the leads were removed, subclavian venous access was protected and bleeding was controlled. Then single-chamber ICD leads were inserted through the vascular sheath. Following placement of the RV lead, we realized that the anchoring sleeve in the RV lead had slid to the tip of the distal coil. Because of the risk of embolism, a new anchoring sleeve was positioned close to the lead connector and sutures were made at the site of introduction into the vein. The pulse generator was then connected to the electrode and secured in the pocket. Implantation was completed after the incisions were closed in layers. During the follow-up 1 year after the procedure, the sleeve was in the same position and the patient's clinical course was uneventful. To the best of our knowledge, this is the first case in which a distal migration of the anchoring sleeve occurred and had a permanent stable position without any complications.

Anchoring sleeves, which are composed of silicone rubber, secure the lead from moving and protect the lead insulation and conductors from damage caused by tight sutures at the site of introduction into the vein. Embolism and migration of lead fragments are well-known complications of lead extraction procedures, occurring in 0.1%–0.2% of these procedures (1, 4). However, the loss of the anchoring sleeve during pacemaker implantation is extremely rare. Mutual interference manipulations and maneuvers of leads may cause the distal migration the anchoring sleeve into the subclavian vein. Moreover, in our case, the especially large subclavian vein entrance because of lead extraction may have caused the problem. During pacemaker implantation, the operator should ensure that the anchoring sleeve is positioned close to the lead connector pin to prevent the inadvertent passage of the sleeve into the vein. However there is no data on the migration of the sleeve of the endocardial leads. Anchoring sleeves and outer insulation coating of endocardial leads are similar because both are composed of silicone rubber. Therefore, if the sleeve is stable and the risk of embolism is low, no problem may occur.

An unusual complication during reimplantation of implantable cardioverter defibrillator (ICD) after ICD leads extraction: Distal migration of anchoring sleeve

To the Editor,

In the last decade, the use of pacemakers and implantable cardioverter defibrillators (ICDs) has increased. Consequently, the number of device- or procedure-related events requiring system removal, such as lead failure or infection, has also in-

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References

1. Robinson T, Oliver J, Sheridan P, Sahu J, Bowes R. Fragmentation and embolization of pacemaker leads as a complication of lead extraction. *Europace* 2010; 12: 754-5.
2. Kennergren C. A European perspective on lead extraction: Part I. *Heart Rhythm* 2008; 5: 160-2.
3. Smith MC, Love CJ. Extraction of transvenous pacing and ICD leads. *Pacing Clin Electrophysiol* 2008; 31: 736-52.
4. Byrd C, Wilkoff B, Love CJ, Sellers TD, Reiser C. Clinical study of the laser sheaths for lead extraction: the total experience in the United States. *Pacing Clin Electrophysiol* 2002; 25: 804-8.

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