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Letter to the Editor

Transvenous extraction of a left subclavian dialysis catheter: A new challenge in cardiology

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The management of patients with implantable cardiac devices has become an increasingly integral part of cardiology in the last 30 years [1–36]. Infectious complications lead also to endocarditis [1,6,8,28–36] and non infectious complications [9,21,23,37–40] often necessitating removal [1,2,8,40–46]. This affects patients' wellbeing and also leads to an increase in psychological difficulties [47–53] in the emerging scenario of concomitant problems and diseases [54–81] and in patients needing device revision and upgrade. In addition, the improved patients' survival, the progressively younger implanted population and the increase in device and procedure complexity have raised the risk of system component structural failures [82–87]. For these reasons, the necessity of extraction has become increasingly higher and the development of specific techniques and tools to reduce morbidity and mortality associated with pacing devices' removal has played an important role representing the cornerstone of modern clinical cardiac electrophysiology as well as efficacious cardiac device implantation and management. Nowadays cardiac rehabilitation in pacing patients' complications is an increasing scenario and it represents a serious challenge as well as its optimal management. Mechanical technique (transvenous lead extraction) is an effective one and with few complications, but a collaborative vision of a multi-disciplinary treatment team [53,72] is required for patient safety and complete rehabilitation [82–88]. Long life expectancy and wide development of therapies have also increased the number of patients under artificial treatment for renal failure and the use of tunneled catheters has consequently increased complications related to their use. A difficult extraction of catheters due to a hard fibrin sheath along its course is a common drawback. Fibrin sheaths are a heterogeneous matrix of cells and debris [89] that may develop around long-term indwelling central venous catheters (CVCs) that remain in place after the catheters are removed [90] and are a known cause of central venous stenosis, venous occlusion [90] and catheter failure [1,3] leading nearly half of them to calcification [90]. They are more common in women [90]. If the fibrin sheaths are treated, there is no increased incidence in subsequent catheter dysfunction or infection compared with patients without fibrin sheaths [91]. Catheter fibrin sheath angioplasty (FSA) after catheter removal or exchange has been proposed [89]. Nowadays, transvenous extraction technique of lead catheters is commonly performed as well as retrieval and removal of foreign intravascular bodies to prevent cardiovascular complications. Difficult transvenous extraction of dialysis catheters due to fibrin sheath along their course is a new challenge in cardiology. We present the case of a 64-year-old Italian woman with a marked superficial venous network throughout the thoracic left area due to a left subclavian dialysis catheter failure (Fig. 1). A chest radiography image (Fig. 2 Panel A) and a tomography

Fig. 1. A marked superficial venous network throughout the thoracic left area due to a left subclavian dialysis catheter failure.

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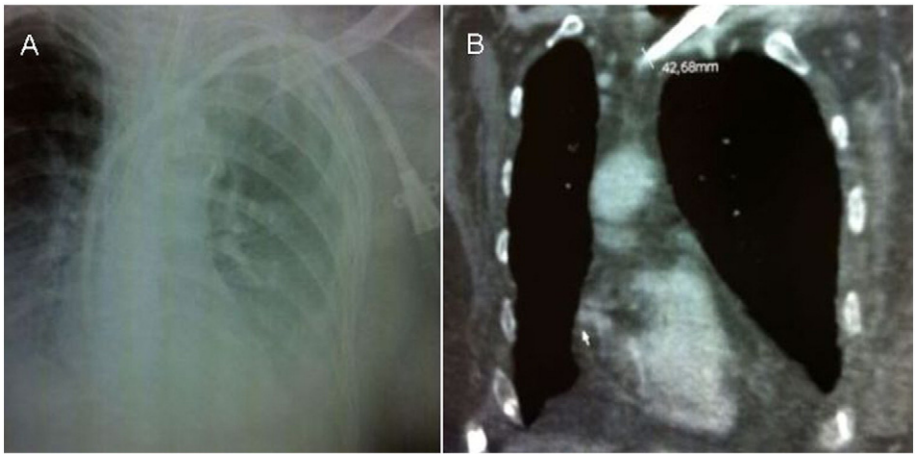

Fig. 2. A chest radiography image (Panel A) and a tomography computed image (Panel B) showing the complete left subclavian dialysis catheter course and pleural effusion were also performed before its complete removal.

computed image (Fig. 2 Panel B) showing the complete left subclavian dialysis catheter course and the pleural effusion performed before its complete removal. Also this case focuses on the safety and effectiveness of transvenous lead extraction and it is illustrative of its use also for dialysis catheters as a new challenge in cardiology.

Conflict of interest

The authors report no relationships that could be construed as a conflict of interest.

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The authors of this manuscript have certified that they adhere to the statement of ethical publishing as appears in International Journal of Cardiology.

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