

Case Report



Extraction of an Entrapped Guide-Wire with Minimal Invasive Technique: A Case Report

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ABSTRACT

An escaped guide-wire of subclavian catheter to the venous lumen is a rare complication. In this case, the guide-wire was escaped to the venous lumen from the right subclavian vein while the emergent temporary pace-maker was inserted to the patient with cardiac arrest due to acute myocardial infarction. The guide which was extended from the inferior vena cava to the right iliac vein was established, but it could not be extracted with the right femoral surgical intervention. We wanted to present extraction of an escaped guide from the inferior vena cava via endovascular snare technique in this article. ©2008, Fırat University, Medical Faculty.

Key words: Guide wire, endovascular snare, catheterization

ÖZET

Venöz lümenine kaçırılan klavuz telin minimal invaziv yöntemle çıkartılması: olgu sunumu

Subklavyan kateterizasyon sırasında, klavuz telin venöz lümenine kaçırılması nadir bir komplikasyondur. Akut miyokard infarktüsüne bağlı kardiyak arrest gelişen bir hastaya, geçici pace-maker takılması sırasında; subklavyan kateterin klavuz teli venöz lümenine kaçırıldı. Klavuz telin vena kava inferiordan sağ iliak vene uzandığı tespit edildi. Ancak sağ femoral venden yapılan cerrahi girişimle klavuz tel çıkartılamadı. Biz bu yazıda; kavuz telin endovasküler kement yöntemiyle, vena kava inferiordan çıkartılmasını sunmak istedik. ©2008, Fırat Üniversitesi, Tıp Fakültesi

Anahtar kelimeler: Klavuz tel, endovasküler kement, kateterizasyon

Central vein catheter is commonly used for various reasons. Subclavian, jugular, femoral vein are frequently chosen. The guide-wire of catheter can escape to the venous lumen during intervention. Various complications such as thrombosis, infection, cardiac arrhythmias and perforation and a mortality rate in the range of 24-60% had been documented due to guide-wire in the venous lumen (1,2). In this study, we report a case of the guide entrapment in the lumen of inferior vena cava during subclavian catheterization.

CASE REPORT

An 81 year old man was brought to the emergency service from another hospital due to acute myocardial infarction. He had cardiac arrest. Emergent temporary pace-maker had been inserted from right subclavian vein. All his vital signs had come back to normal, but it had been seen that the guide of subclavian catheter had been escaped to the vein lumen. Extraction of the guide with surgical exploration of right femoral vein was failed. Therefore, he was referred to our institution for extraction of the guide.

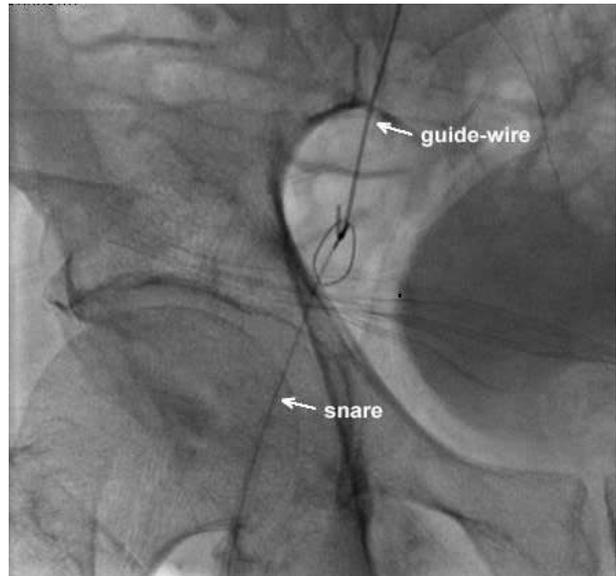


Figure1. Endovascular snare technique

The end of the guide-wire was seen in the right subclavian vein and the other end was seen in the right common iliac vein in the angio laboratory. First of all,

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right femoral vein was tried to be catheterized with seldinger technique for intervention however this attempt was failed. The both ends of guide could not captured with endovascular snare (EN Snare[®]-catheter, 6Fx100 cm) from left femoral intervention. Then the previous incision re-opened and it was seen that right femoral vein was thrombosed. It was punctured to the fresh thrombosed vein politely with seldinger method. The end of guide was captured easily in the right iliac vein with a snare-catheter and was taken out of the vein (Fig.1). There was no complication observed such as pulmonary embolism. Heparin induced in the postoperative period for pulmonary emboli protection.

DISCUSSION

Recently central vein catheter is commonly used in most fields such as Cardiology-Cardiovascular Surgery, Emergency Service, Intensive Care Unit, Nephrology, and Oncology. Some complications might be seen like hematoma, venous thrombosis, malposition, arrhythmia, knotted catheter,

infection, pneumothorax during this procedure (2,3). In addition, the guide might escape into the vessel rarely (4). In our case, inserting a emergent temporary pace-maker from right subclavian vein in patient with cardiac arrest due to acute myocardial infarction was a correct intervention, but an escaped guide-wire of subclavian catheter to the venous lumen is a unlucky complication. Dogan at al (5) reported a similar case in their study that an infected guide was taken out of body on right femoral vein exploration via venotomy. Although the guide had not been extracted with the open technique (venotomy) in our case, femoral vein thrombosis occurred after the process.

There are studies reporting extraction of a part of broken catheter in the vessel with the aid of endovascular snare (6,7). Steinberg et al (8) rapored that a fractured coronary stent in a saphenous vein graft extracted with snare. We performed a successful guide extraction with endovascular snare without major surgical intervention like thoracotomy or retroperitoneal approach. We think that extracting an escaped guide-wire with minimal invasive approach is a more preferable method, especially in an old patient with subacute myocardial infarction.

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