


Ultrasound-guided removal of cut intravenous cannula

Kesilmiş intravenöz kanülün ultrasonografi eşliğinde çıkarılması

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Abstract

The most common invasive intravascular procedure is the placement of the intravenous cannula. The use of peripheral venous cannulas may lead to a number of complications that may increase hospital stay, increase the cost of treatment, and decrease patient comfort. Spontaneous fracture and migration of intravenous cannula is a known complication and should be removed immediately. We report a case of a peripheral venous catheter (PVC) piece in the left cephalic vein treated successfully by a surgical approach. Our patient had to undergo intravenous cannulation for treatment of pneumonia and the cannula was cut on the second day by mistake during removal. The cut catheter piece was removed operatively. Inserting and removing a PVC is not always a simple and harmless procedure.

Keywords: Foreign body, ultrasonography.

Öz

İntravenöz kanül kullanımı dünyada en yaygın uygulanan invaziv intravasküler prosedürdür. Periferik venöz kanüllerin kullanımı hastane kalış süresini, tedavi maliyetini artırırıcı ve hasta konforunu azaltıcı bir takım komplikasyonlara yol açabilir. İntravenöz kanülün kırık ve migrasyonu bilinen bir komplikasyondur ve derhal çıkarılması gerekir. Bu yazıda sol sefalik vendeki kesilmiş periferik venöz kateterin cerrahi olarak çıkarıldığı bir olguyu sunuyoruz. Hastamıza pnömoni tedavisi için damar yolu açılmış ikinci gün kanül çıkarılırken yanlışlıkla kesilmiş. Kesik kateter parçası operasyonla çıkarıldı. Çok yaygın kullanımına rağmen intravenöz kanül yerleştirmek ve çıkarmak her zaman basit ve zararsız bir prosedür değildir.

Anahtar Sözcükler: Yabancı cisim, ultrasonografi.

Introduction

Intravenous catheter therapy, which is the most commonly used method for fluid and intravenous medications has various complications such as vein rupture, paravenous subcutaneous infusion, phlebitis and thrombosis, catheter rupture and embolism. Herein we report a case of a patient with the history of fractured catheter in the left antecubital fossa.

Case report

A 31-year-old male patient was admitted to our emergency department because of cut plastic fragment in the upper limb vein.

He received 2 days of medication for pneumonia. Antibiotics were given by 22 gauge intravenous cannula.

The intravenous cannula was accidentally cut by the patient at the site of entry into vein while removing the adhesive tapes around the cannula. A tourniquet has been applied proximal to the fossa to prevent further migration by the patient. Palpation of the extremity did not show the catheter to be in the vein. The catheter fragment was non-opaque and could only be located by ultrasonography (USG). USG revealed the broken part of intravenous cannula in cephalic vein (Figure-1).

The study was carried out with a Toshiba Aplio 300 brand ultrasonic transducer with a 11L4 linear array of high frequency transducers.

Patient was taken to the operation room for removal of the part of the cannula. Venotomy was done but the broken part could not found so an ultrasound scan needed to locate the cannula again. Then the broken part of the cannula was removed using 3F Fogarty catheter under the USG guide. Vein was ligated above and below the incision site. It was noticed that the broken cannula had moved approximately 5 cm proximally.

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Received: 01.12.2017 Accepted: 15.01.2018

Written informed consent was obtained from the patient for publishing the individual medical records



Figure-1. Cut intravenous cannula piece in cephalic vein displayed by USG.

Discussion

All over the world peripheral vein catheterization is the most common invasive maneuver nearly almost in hospitalized people. And it is generally considered harmless.

The intravascular foreign bodies may originate both iatrogenic and non-iatrogenic, and can cause significant complications such as thrombosis, pulmonary and peripheral embolism, so they need to be removed, by surgery or percutaneous radiological techniques.

The incidence of embolism of the catheter varies from 0.2% to 4.2% and it usually happens with central venous

catheter or totally implanted port devices in the literature (1).

In 1954 Turner et al. reported the first embolization of a polyethylene catheter from the cubital vein into the right atrium at autopsy (2).

Until now, there has been an increase in the number of implanted venous catheters.

Surov et al. (1) reported that catheter fragments were found in the superior vena cava or in the peripheral veins in 15.4%, in the right atrium in 27.6%, in the right ventricle in 22% , and in the pulmonary artery in 35% in reported cases between 1985 and 2007.

It is suggested to remove the broken part for preventing the long-term risk of pulmonary or septic complications (1).

Dell'Amore et al. (3) reported a case of PVC fracture with pulmonary artery embolization After 2 months because of the persistence of symptoms of the patient they removed the broken part by mini thoracotomy. Our case is in a different situation because it was a PVC positioned in the left cephalic vein and removed before embolization.

Placement and removal of a PVC is not always a simple and harmless procedure, so it must be done in a competent hand.

Financial support: No funding have been received for this study.

Conflict of interest: None of the authors has financial interest related to this study to disclose.

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