

## **A Needle in a Haystack - Fractured IV Cannula Retrieval**

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### **I. Introduction:**

Intravenous (IV) cannulation is a technique in which a cannula is placed inside a vein to provide venous access. Venous access allows sampling of blood, as well as administration of fluids, medications, parenteral nutrition, chemotherapy, and blood products. However complications may also arise as a result of improper insertion or removal of iv catheter . Among the rarest of complications that can occur in intravenous catheterisation is fracture of the catheter. The most common occurrence of such an event is during re-insertion of the needle in an already advanced catheter where the needle may transect the catheter partially and completely, thereby sending the distal fragment into the venous network. If such a case happens in a vein without any valves, it essentially can travel into the heart and embolise any where in the cardiac/pulmonary vasculature. We report a case of a fractured intravenous catheter with proximal migration of the distal fragment and its retrieval in a patient after prompt and timely intervention.

### **II. Case Summary :**

A 35 year old female presented with complaints of pain and swelling over the left forearm. The patient had a history of IV cannulation on the left forearm and had difficulty in removal of the same. Local examination showed tenderness and foreign body sensation over the proximal aspect of left forearm. X-ray was normal. High frequency ultrasound of the left forearm showed a linear foreign body of size 3.5x0.3cm and skin markings were done for the same. Doppler study confirmed the foreign body to be in the cephalic vein. Tourniquet was applied 5cm proximal to the marking. A pressure of about 50-100mmhg is required to collapse the superficial venous system. Under sterile aseptic precautions, incision was made over the surface marking and deepened. The cephalic vein was dissected throughout the length of the foreign body. The proximal end of the vein was clamped and venotomy was done. The foreign body was retrieved en masse. Wound was closed in layers. The patient was discharged without further complications.

### **III. Discussion :**

Percutaneous treatment of intravascular foreign bodies was successful in 1.1% of the patients. A successful procedure was defined as either complete removal or successful repositioning of the intravascular object. The usage of high frequency ultrasound and colour doppler aided in accurate localisation of the foreign body in this scenario. Since its first description more than three decades ago, the percutaneous retrieval of intravascular foreign bodies has become a frequently applied technique. Despite the high number of interventions performed, few large studies of the method's successes and failures are available in the literature. At present there are no standardised guidelines for the management of an intravascular foreign body. Reinforcement of good technique and avoiding vigorous movements are to be stressed upon for prevention of such complications.

### **References**

- [1]. Thomas J, Sinclair-Smith B, Bloomfield D, Davachi A. Non-surgical retrieval of a broken segment of steel spring guide from right atrium and inferior vena cava. *Circulation* 1964;30:10
- [2]. Uflacker R, Lima S, Melichar AC. Intravascular foreign bodies: percutaneous retrieval. *Radiology* 1986;160:731-735
- [3]. Egplin TK, Dickey KW, Rosenblatt M, Pollak JS. Retrieval of intravascular foreign bodies: experience in 32 cases. *AJR* 1995;164:1259-1264
- [4]. Dotter CT, Rosch J, Bilbao MK. Transluminal extraction of catheter and guide fragments from the heart and great vessels: 29 collected cases. *AJR* 1971;111:467-472
- [5]. Lipton M, Cynamon J, Bakal CW, Sprayregen S. Percutaneous retrieval of two Wallstent endoprostheses from the heart through a single jugular sheath. *J Vasc Interv Radiol* 1995;6:469-472

- [6]. Bartorelli AL, Fabbicocchi F, Montorsi P, Loaldi A, Tamborini G, Sganzerla P. Successful transcatheter management of Palmaz stent embolization after superior vena cava stenting. *Cathet Cardiovasc Diagn* 1995;34:162–166
- [7]. Slonim SM, Dake MD, Razavi MK, et al. Management of misplaced or migrated endovascular stents. *J Vasc Interv Radiol* 1999;10:851–859
- [8]. Curry JL. Recovery of detached intravascular catheter or guide wire fragments: a proposed method. *Am J Roentgenol Radium Ther Nucl Med* 1969;105:894–896
- [9]. Yedlicka JW Jr, Carson JE, Hunter DW, Castaneda-Zuniga WR, Amplatz K. Nitinol gooseneck snare for removal of foreign bodies: experimental study and clinical evaluation. *Radiology* 1991;178:691–693
- [10]. Cekirge S, Weiss JP, Foster RG, Neiman HL, McLean GK. Percutaneous retrieval of foreign bodies: experience with the nitinol goose neck snare. *J Vasc Interv Radiol* 1993;4:805–810
- [11]. Dondelinger RF, Lepoutre B, Kurdziel JC. Percutaneous vascular foreign body retrieval: experience of an 11-year period. *Eur J Radiol* 1991;12:4–10
- [12]. Dawson S, Papanicolaou N, Mueller PR, Ferrucci JT Jr. Preserving access during percutaneous catheterization using a double-guide-wire technique. *AJR* 1983;141:407
- [13]. Burri C, Henkemeyer H, Passler HH. Katheterembolien [Cather embolism, in German]. *Schweiz Med Wochenschr* 1971;101:1575–1577:

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