

## A CASE REPORT ON THE MANAGEMENT OF A BROKEN HAEMODIALYSIS CATHETER IN THE FEMORAL VEIN

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### ABSTRACT

We are reporting the case of a 24 years old man with end stage renal failure undergoing emergency haemodialysis. His catheter fractured with the distal segment getting lodged in the left femoral vein. Percutaneous extraction of the catheter segment failed and it had to be retrieved through a venotomy performed under local anaesthesia. Catheter fragments in a vein should be promptly extracted to prevent complications such as arrhythmias, perforation of the great vessels and their often fatal embolization to the right heart.

**Key Words:** Single Lumen Haemodialysis Catheter; Venotomy Retrieval; Broken Haemodialysis Catheter

### Introduction

In patients requiring urgent haemodialysis, catheters are commonly used for temporary venous access. In India 65% of patients with chronic kidney disease receive haemodialysis through this route.<sup>[1]</sup> Catheter fracture as a complication has seldom been reported. Here we report a case of fracture of a haemodialysis catheter in the left femoral vein. Percutaneous transfemoral venous approach failed to retrieve the catheter and a venotomy had to be performed in order to extract the catheter from the femoral vein.

### Case Report

A 24 year old man presented to the emergency room of Rohilkhand Medical College and Hospital, Bareilly with uraemia due to end stage renal failure. Physical examination revealed a pulse rate of 88 beats/ min, Respiratory rate 24 breaths/ min, Blood pressure 150/110 mmHg and extreme pallor. Laboratory data was as follows: Hb- 4.5 gm%, Serum Creatinine - 15.8 mg%, Serum Urea - 284mg%, Serum Potassium- 5.3 meq/l. Chest x-ray showed bilateral pleural effusion and an abdominal ultrasound revealed Hepatospleno-megaly, ascites , and bilaterally shrunken kidneys. Emergency haemodialysis was initiated using a single lumen femoral venous catheter in the left femoral vein. However when the dressing was removed for the next dialysis session it was found that the catheter had fractured just distal to its cuff. Urgent ultrasonography revealed the fractured fragment to be lodged in the left femoral vein (Figure 1).

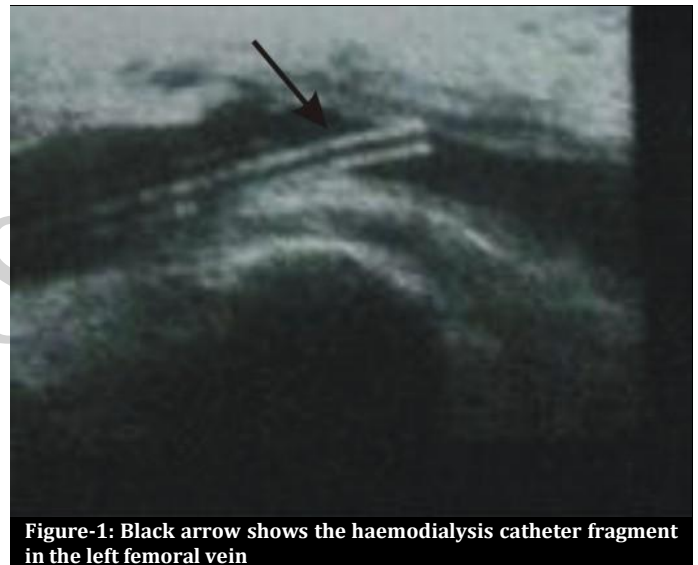


Figure-1: Black arrow shows the haemodialysis catheter fragment in the left femoral vein



Figure-2: Black arrow mark the haemodialysis catheter fragment snared by a loop under fluoroscopic guidance



Figure-3: Venotomy incision over left inguinal region



Figure-4: Haemodialysis catheter fragment extracted by venotomy

The patient was shifted to the cardiac suite and under fluoroscopic guidance a percutaneous transfemoral snaring of the catheter was attempted but failed when the catheter got stuck at its entrance in the left femoral vein. (Figure 2). A venotomy under local anaesthesia had to be performed to finally retrieve the fractured distal catheter segment (Figure 3 & 4). The postoperative course was uneventful.

## Discussion

Peripherally inserted temporary haemodialysis catheters are commonly used in patients with end stage renal failure requiring urgent haemodialysis.<sup>[2]</sup> The femoral vein is preferred when rapid access is needed for logistic reasons. Insertion is relatively easy, complications are rare and treatment can be started without delay.<sup>[3]</sup>

Complications of percutaneously inserted intravenous catheters previously reported in literature include bacteremia, mechanical failure or rupture and venous thrombosis.<sup>[4]</sup>

Even though femoral vein temporary haemodialysis catheters are frequently used in India few reports regarding their complications especially fractures have appeared in publications.<sup>[5]</sup>

Catheter embolization is the term which has been coined for catheter fragments that embolize to various locations including pulmonary arteries and which can be fatal. Most reports suggest immediate retrieval of the catheter fragments. Complications like sepsis, perforation, thrombosis, arrhythmias, myocardial infarction have also been reported.<sup>[6]</sup>

Percutaneous retrieval of an intravascular foreign body is the procedure of choice because of its simplicity and safety. Surgery is usually reserved for failed percutaneous procedures as was in our case.<sup>[7]</sup>

## Conclusion

Catheter fragments in a vein should be promptly extracted to prevent complications such as arrhythmias, perforation of the great vessels and their often fatal embolisation to the right heart.

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