CASE REPORT

CATHETER FRACTURE- A RARE COMPLICATION OF PERIPHERALLY INSERTED CENTRAL CATHETER (PICC)

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ABSTRACT

The Peripherally inserted central venous catheter (PICC) is a thin and long flexible catheter made of biocompatible material, either silicone or polyurethane, inserted percutaneously into the basilic or cephalic vein in the forearm or the antecubital fossa, often with the help of ultrasound or fluoroscopy guidance. The catheter is then advanced into the central circulation with tip of the catheter most often placed in the superior vena cava or at the caval-atrial junction. Although peripherally inserted central catheters (PICCs) offer advantages over traditional central venous approaches, PICC lines are associated with a number of insertion and maintenance problems. We present a case of Acute Lymphoblastic Leukaemia (ALL) on modified Berlin Frankfurt – Munster (BFM) protocol with a rare complication of catheter fracture.

Keywords: Peripherally inserted central venous catheter (PICC) Complications, Catheter fracture

INTRODUCTION

Peripherally inserted central catheters are most commonly inserted via the basilic, brachial, or cephalic veins.[1,2] Peripherally inserted central catheter lines are indicated in patients requiring several weeks to 6 months of IV therapy. Common indications for PICC lines include parenteral delivery of nutrition, antibiotics, and analgesics, as well as chemotherapy and repeated blood transfusions.

CASE REPORT

2 year old female patient with Down's syndrome was diagnosed as Acute Lymphoblastic Leukemia (Precursor B-ALL), with normal cytogenetic. She was put on paediatric Berlin – Frankfurt – Munster (BFM) protocol. The case was discussed with resident critical care who inserted peripherally inserted central venous catheter (PICC) for chemotherapy .When she completed her induction, it was observed that PICC line was not functional. It was decided to remove the line. Resident critical care encountered difficulty while removing the peripheral intravenous (IV) catheter, slight manipulation of the line was attempted, however the PICC line fractured (fig 1) and dislodged into in to the right atrium. Snare was inserted through right femoral vein and catheter was retracted.

Figure 1 showing x-ray chest with fractured catheter

DISCUSSION

Peripherally inserted central venous catheters (PICCs) have been increasingly used in paediatric patients. However, the long-term placement of PICCs may also be related to an increased risk of complications e.g. pneumothorax, arterial puncture, haemothorax, stroke, ar-

rhythmias and nerve damage. A potentially serious complication has been reported in the form of catheter fracture with embolisation of a catheter fragment. Although long dwell time and a history of other catheter complications have been significantly associated with this complication, it is very rare[3]. Catheter fracture is more frequent in PICCs than central venous catheter (CVCs). It may occur during insertion, due to excessive syringe pressure, removal or traction on the catheter-hub junction. At our centre we have an experience of inserting about 600 peripherally inserted central venous catheters (PICCs) in thelast10 year and this is the first case where we observed this complication .The procedure must therefore be performed by a specially trained physician, usually in an intensive care unit or in the operating theatre. While in use, the catheters may cause other complications such as infection, deep venous thrombosis (DVT), thrombophlebitis and dislodgement. Serious complications per se, or delayed treatment, can lead to increased morbidity and suffering, and sometimes, even a fatal outcome. These complications often result in catheter removal before completion of prescribed therapy. This case highlights the importance of health care providers being aware of the possibility of catheter fracture, as well as steps to prevent and mitigate its occurrence.

CONCLUSION

Rare complication of PICC line is its fracture and dislodgment. So when the catheter is impacted it should be meticulously decannulated under flouroscopic guidance with supervision of an interventional cardiologist .

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