Received: 24 June 2021 | Revised: 11 September 2021 | Accepted: 23 December 2021

DOI: 10.1002/ccr3.5385

Clinical Case Reports Open Access WILEY

CLINICAL IMAGE

Self-correction of a migrated power-injectable peripherally inserted central catheter following contrast-enhanced computed tomography

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Funding information
The authors received no specific funding for this work

Abstract

The use of power-injectable peripherally inserted central catheter (PIPICC) is a common practice, but displacement of these lines following injection of contrast media has been reported in 15.4% of cases. This report presents imaging evidence of displacement and self-correction of a PIPICC line following contrast-enhanced computed tomography.

KEYWORDS

catheter displacement, contrast-enhanced computed tomography, power-injectable peripherally inserted central catheter

A 66-year-old man receiving lung-protective mechanical ventilation for acute respiratory distress syndrome from COVID-19 was introduced to a power-injectable peripherally inserted central catheter (PIPICC) on the 27th day of ICU for multiple drug infusion (propofol, fentanyl, midazolam, rocuronium). The line was an open-ended, triple-lumen 5-French PIPICC (Bard Access Systems, Inc.). Chest radiography prior to computed tomography (CT) showed the catheter was in the normal position (Figure 1A). Contrast-enhanced CT for deep vein thrombosis of the internal jugular vein demonstrated that the catheter tip was being moved (Video S1) and looped in the right internal jugular vein (Figure 1B). One hour after CT, a fluoroscopy room check showed that the catheter tip had spontaneously returned to proper position without intervention (Figure 1C).

Although PIPICC use is common, displacement of PIPICC following contrast media injection occurs in 15.4% of cases[1] and can be associated with catheter-related thrombosis,[2] suggesting that the wandering catheter needs to be reinserted or repositioned. However, this report shows self-correction of a migrated PIPICC 1 h after contrast media injection. Abnormalities in the PIPICC position after contrast-enhanced CT may rectify spontaneously, but physicians should be aware that intervention will be required if the PICC tip does not self-correct.

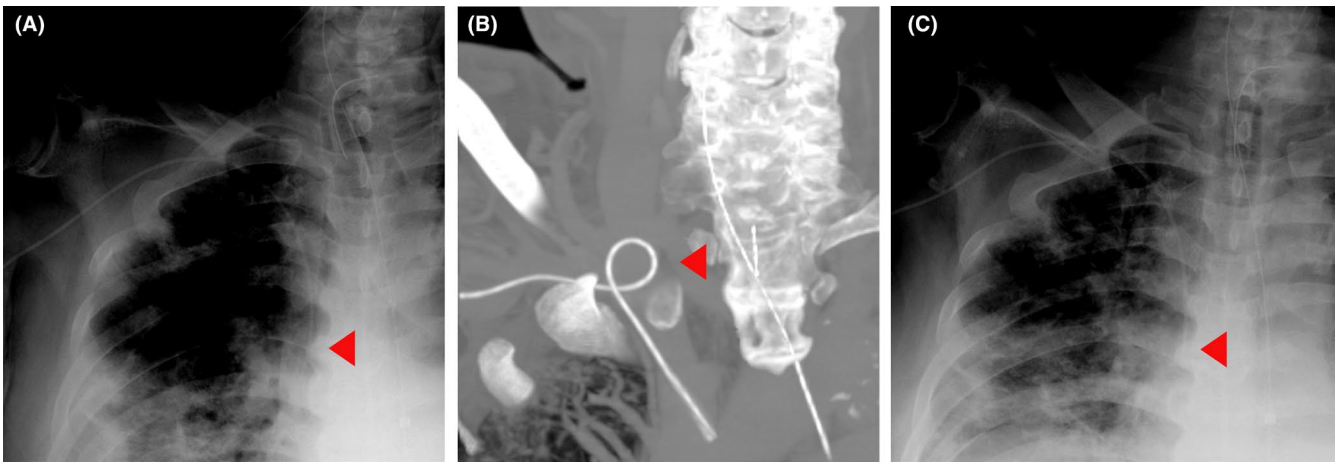

FIGURE 1 (A) AP chest radiograph prior to CT showing a power-injectable peripherally inserted central catheter in the normal position. (B) Contrast-enhanced CT showing the catheter tip looped in the right internal jugular vein. (C) AP chest radiograph in the X-ray fluoroscopy room after CT showing that the catheter tip spontaneously returned to its appropriate position without intervention

ACKNOWLEDGEMENTS

We would like to thank Editage (www.editage.com) for English language editing.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

All authors contributed significantly. Ryuichi Nakayama wrote and edited the manuscript. Ryuichi Nakayama, Naofumi Bunya, and Tatsuki Nonaka treated the patient. Naofumi Bunya and Naoya Yama coordinated, co-wrote, and co-edited the paper. All authors accessed the data.

CONSENT

Appropriate written informed consent was obtained from the patient for publication of this case report and accompanying images.

DATA AVAILABILITY STATEMENT

Data available on request from the authors.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

How to cite this article: Nakayama R, Bunya N, Yama N, Nonaka T. Self-correction of a migrated power-injectable peripherally inserted central catheter following contrast-enhanced computed tomography. *Clin Case Rep*. 2022;10:e05385. doi:10.1002/ccr3.5385