

# A dysfunctional central venous line

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## CASE REPORT

A 62-year-old lady with breast cancer had a peripherally inserted central catheter (PICC) line inserted four months ago to receive adjuvant Herceptin therapy. At

the time, the chest radiograph confirmed the tip of the line in the superior vena cava. She received three weekly Herceptin with no problems for four months. She attended the chemotherapy day unit to receive the next cycle of treatment, having recently returned from a week's holiday abroad. The chemotherapy nurse was unable to aspirate blood from the line. On examination she could not feel the part of the catheter distal to the external connector. The patient had not noticed any leakage or other changes at the insertion site since her last treatment three weeks ago and was well without any symptoms. She was haemodynamically stable and no abnormality was found on her systemic examination. The line was initially thought to be blocked and a chest radiograph was arranged before urokinase injection.

Figure 1



## WHAT DOES THE CHEST RADIOGRAPH SHOW?

See page 133 for the answer to this photo quiz.

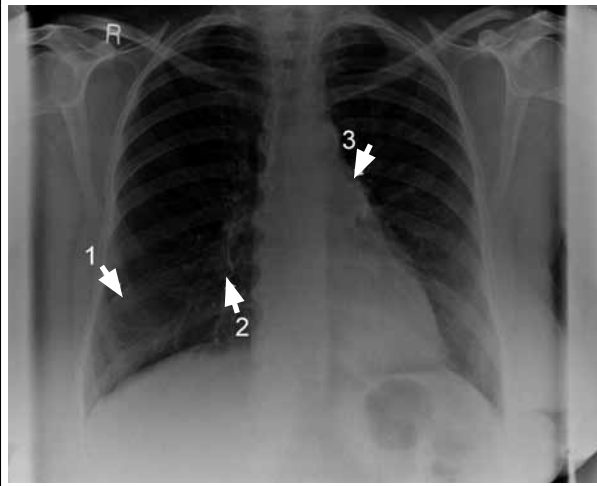
ANSWER TO PHOTO QUIZ (PAGE 129)  
A DYSFUNCTIONAL CENTRAL VENOUS LINE

## DISCUSSION

The chest radiograph revealed the entire piece of PICC line lying in the right main pulmonary artery (arrows 1, 2, and 3) with both ends in the medial and lateral basal segment branches in the right lower lobe (arrows 1 and 2). It was later removed successfully by endovascular snaring. PICC lines are widely used to administer intravenous therapy in patients with cancer. They have the advantage of providing easier venous access, especially in situations

where prolonged intravenous treatment is required and are associated with fewer complications compared with centrally placed tunnelled lines. Fracture and embolisation of PICC lines are very rare, but can cause potentially serious complications such as pulmonary embolism, cardiac arrhythmias, cardiac perforation and sepsis.<sup>1</sup> Patients may present with symptoms such as pain or dyspnoea. Alternatively, they may be asymptomatic and present simply with a PICC line that cannot be flushed, as in this case. The treatment of choice is endovascular snaring.<sup>2</sup> The incidence of this complication is likely to rise as PICC lines are increasingly used in patients undergoing intravenous outpatient therapy.<sup>3</sup> Physicians and nurses therefore need to be more aware of this potential complication and a chest radiograph should be requested if unable to aspirate.

Figure 2.



## REFERENCES

1. Tan PL, Gibson M. Central venous catheters: the role of radiology. *Clin Radiol.* 2006;61:13-22.
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3. Amerasekera SSH, Jones CM, Patel R, Cleasby M. J. Imaging of the complications of peripherally inserted central venous catheters. *Clin Radiol.* 2009;64:832-40.