

CLINICAL IMAGE

A double-lumen catheter for hemodialysis dislocated into the mediastinum

Takuya Kusumoto¹  | Kento Mitsushio² | Nobuyuki Kajiwara³ 

¹Post Graduate Clinical Education Center, Ikeda City Hospital, Ikeda, Japan

²Department of Endocrinology and Metabolism, Ikeda City Hospital, Ikeda, Japan

³Department of Nephrology, Ikeda City Hospital, Ikeda, Japan

Correspondence

Takuya Kusumoto, Post Graduate Clinical Education Center, Ikeda City Hospital, 3-1-18 Johnan, Ikeda, Osaka 563-8510, Japan.
Email: t.kusumoto.0114@gmail.com

Abstract

The insertion of a catheter into the mediastinum can occur in any patient as a complication. We must check for blood regurgitation not only in the blood removal line but also in the blood return line.

KEYWORDS

complication, hemodialysis catheter, mediastinum, vascular access devices

A 71-year-old woman with chronic renal failure presented with uremia, and she did not have an internal shunt. Therefore, we inserted a double-lumen catheter for hemodialysis through the right internal jugular vein. We needed to rotate the guidewire due to some resistance. The guidewire in the vein could be visualized by ultrasonography. However, the blood removal line showed no blood regurgitation. After we pulled the catheter out by 2 cm, we observed blood regurgitation. A chest X-ray revealed an appropriately positioned catheter (Figure 1). However, we could not obtain blood flow for hemodialysis. Then, we injected a contrast agent into the blood return line. Chest X-ray and CT revealed contrast agent leakage in the mediastinum (Figures 2 and 3). We removed the catheter without any complications of catheter insertion and contrast agent injection. After 4 days, the contrast agent disappeared on the chest X-ray (Figure 4).

We believe that the catheter passed through the vessel wall diagonally and that the initial blood regurgitation originated from the location indicated by an arrow (Figure 5).

There have been several reports of a catheter having been inserted into the mediastinum through a central vein.¹ Checking for blood regurgitation in both the blood removal and return lines is recommended.

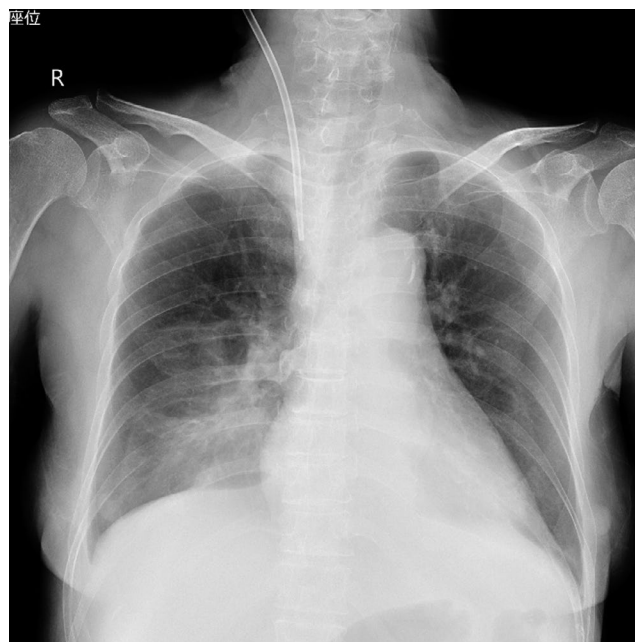


FIGURE 1 Chest X-ray after the insertion of a double-lumen catheter to check the catheter location. This figure shows the catheter positioned appropriately

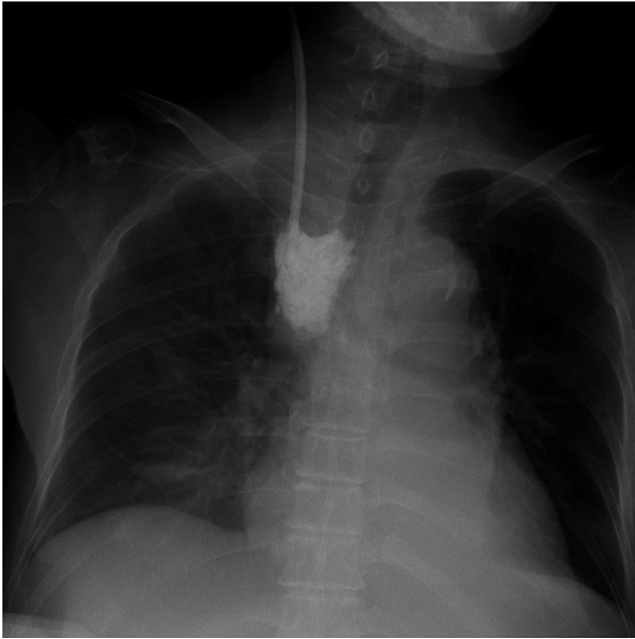


FIGURE 2 Chest X-ray after the injection of a contrast agent in the blood return line of the double-lumen catheter. Contrast agent is visible in the mediastinum



FIGURE 3 Chest CT after the injection of a contrast agent in the blood return line of the double-lumen catheter. Contrast agent is visible in the mediastinum

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare with regard to this report.

AUTHOR CONTRIBUTIONS

TK: drafted the manuscript. All authors contributed to the therapy and the manuscript preparation and revision. All authors consented to be held accountable for the present report.

INFORMED CONSENT

We ensured the patient's anonymity and obtained written consent for the present report.

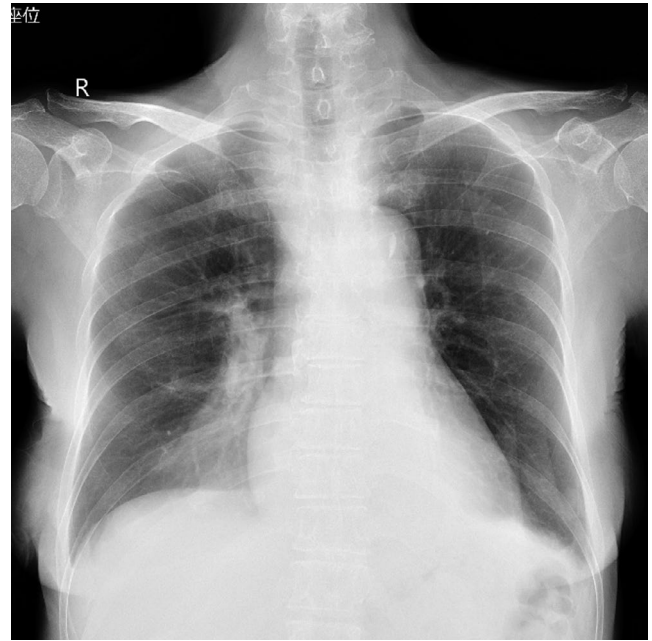


FIGURE 4 Chest X-ray obtained 4 days after the contrast agent injection. This figure shows that the contrast agent disappeared

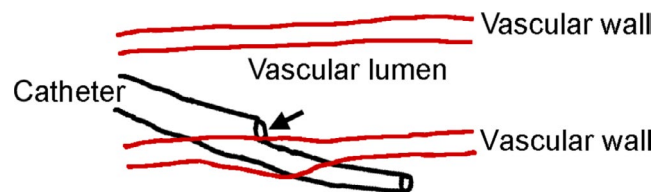


FIGURE 5 This image shows how the catheter passed through the vessel wall diagonally, explaining the blood regurgitation in the blood removal line. The blood removal line is indicated by an arrow

ORCID

Takuya Kusumoto  <https://orcid.org/0000-0003-1866-0173>

Nobuyuki Kajiwara  <https://orcid.org/0000-0001-7017-4354>

REFERENCE

1. Sarach J, Zschokke I, Melcher GA. A life-threatening mediastinal hematoma after central venous port system implantation. *Am J Case Rep.* 2015;16:904-907.

How to cite this article: Kusumoto T, Mitsushio K, Kajiwara N. A double-lumen catheter for hemodialysis dislocated into the mediastinum. *Clin Case Rep.* 2019;7:1817–1818. <https://doi.org/10.1002/ccr3.2326>