

Letters to the editor

Unusual placement of a central venous catheter

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To the editor:

Central venous catheterization is frequently done by anesthesiologists in the operating room or in the intensive care unit. The failure rate in correctly positioning central venous lines has been reported as being between 6% and 9% [1,2]. The internal jugular vein is the most common location of a malpositioned catheter entering from the subclavian vein. Misdirection of catheters within major tributaries of the superior vena cava is also not uncommon. However, erroneous positioning in small tributaries of a large central vein is a rare occurrence. We describe a case in which catheter tip was placed in an unusual intrathoracic site.

A right percutaneous subclavian catheter (Argyle 16G Nippon Sherwood, Tokyo) was placed for the route of aspiration of air emboli as well as for gaining venous access in a 52-year-old woman who was scheduled for laparoscopic cholecystectomy. After tracheal intubation under sevoflurane anesthesia, the catheter was advanced 20 cm through an infraclavicular approach without any difficulty. An anteroposterior radiograph revealed the catheter to be apparently malpositioned (Fig. 1). The catheter seemed to be extravascular and to have perforated the lung. However, easy aspiration of blood confirmed that the tip was in a vessel. Soon after, the catheter was replaced using the same sheath, and it was confirmed by a chest radiograph that the line was appropriately placed with the tip in the right atrium.

The location of the malpositioned catheter was at first considered to be the left internal mammary vein or the left superior intercostal vein via the left brachiocephalic vein. However, although the straight descending portion of the line passing through the edge of the aortic

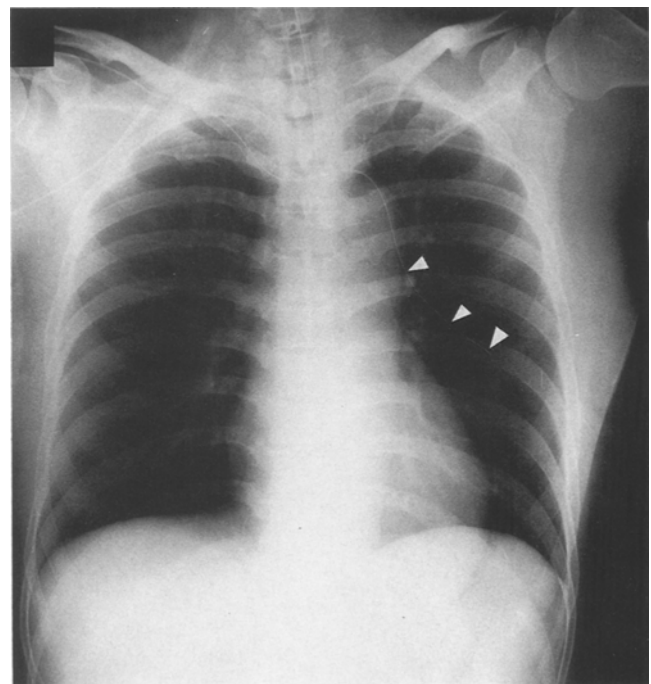


Fig. 1. Anteroposterior chest radiograph showing malposition of the catheter (arrows)

arch could be explained in this way, the subsequent oblique line could not [3]. Previous reports of catheter malposition in the internal mammary vein have shown a different running pattern in the chest radiograph [4–6]. This oblique descending line in the thorax is only in accord with a report where a catheter was directed into an anomalous pulmonary vein at the right side via the superior vena cava through the left internal jugular vein [7]. To our knowledge, malposition of a catheter in a left anomalous pulmonary vein has not been reported. Although we could not confirm the position because of a lack of further examination, such as a lateral chest radiograph, contrast radiograph, or blood gas analysis,

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the possibility of malposition in an anomalous pulmonary vein via the left brachiocephalic vein (or also possible via the persistent left superior vena cava) may exist. The patient had no cardiac history, no cardiomegaly, and regularly took exercise. This patient's status also may not exclude the possibility of malposition in an anomalous pulmonary vein.

This case presents the unusual placement of a central venous catheter via the subclavian vein. It should be realized that the position of a catheter must be verified not only by an anteroposterior radiograph but also by a lateral view or angiograph if there is any doubt about the position.

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