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Unrecognized Migration of an Entire Guidewire on Insertion of a Central Venous Catheter into the Cardiovascular System

To the Editor:—Although many complications of central venous catheterization, including fragmentation of a guidewire with pulmonary artery embolism, have been published,[1,2] intravascular migration of an entire guidewire has not been reported.

A 69-yr-old woman underwent elective abdominoperineal surgery for advanced rectal carcinoma. After induction of anesthesia, an introducer needle attached to an Arrow Raulerson Syringe was inserted into the right jugular vein, followed by insertion of a J-tipped spring guidewire (0.89 mm in diameter, 60 cm in length) through the hole in the rear of the Raulerson Syringe plunger to a depth of 30 cm. After removal of a dilator, a 7-Fr double-lumen central venous catheter (CVC; Arrow International, CS-17702-E, Reading, PA) was inserted *via* the right jugular vein over the guidewire to a depth of approximately 12 cm. The CVC appeared to be inserted uneventfully, and both loss of the guidewire and abnormal findings on a chest radiograph taken 20 min after completion of the surgery went unnoticed (fig. 1).

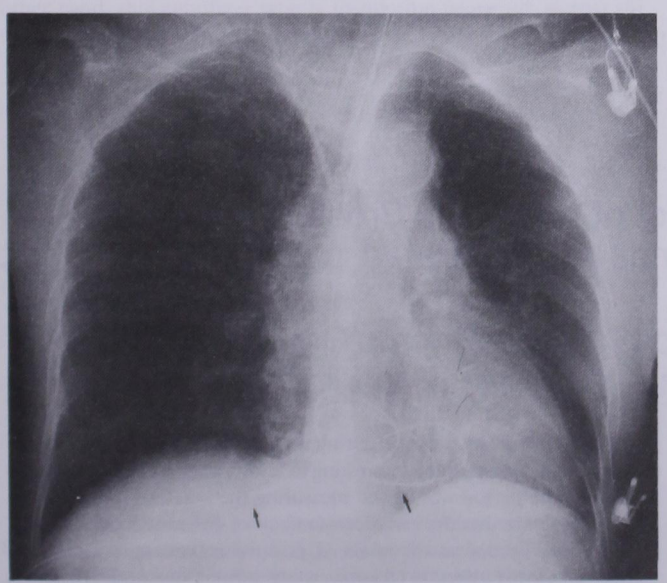

Fig. 1. Chest radiograph taken 20 min after completion of the surgery shows a looped metallic density extending from the lower part of the cardiac silhouette to the right subdiaphragmatic region (arrows).

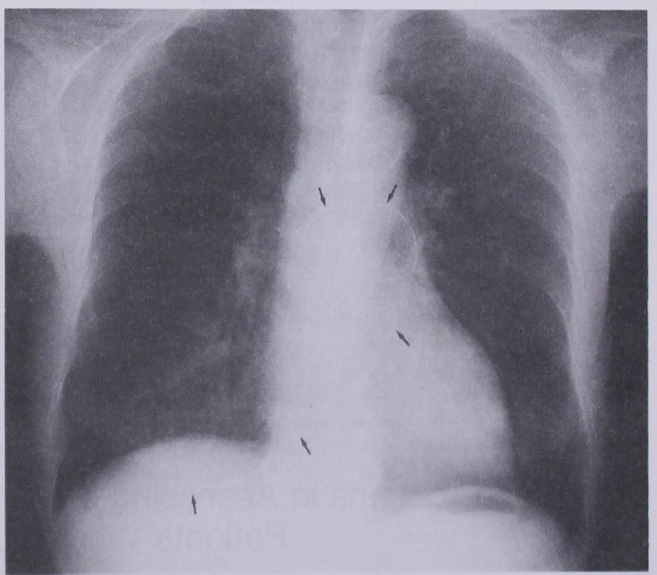

Fig. 2. Chest radiograph taken on the 56th postoperative day shows a metallic density forming loops in a cardiac silhouette (arrows).

The postoperative course was uneventful, and the patient remained asymptomatic. On a chest radiograph taken on the 56th postoperative

day, a metallic density forming loops in the cardiac silhouette was noted (fig. 2). The computed tomograph revealed the intravascular wirelike foreign body with both free ends in the hepatic vein and loops in the right pulmonary artery through the right intracardiac chambers.

On the 64th postoperative day, with informed consent, a 6-Fr pigtail catheter was inserted *via* the right femoral vein to remove the foreign body under fluoroscopic nonsurgical technique.[2] The right pulmonary arterial and intracardiac portions of the foreign body were easily dislodged into the inferior vena cava (IVC) by caudad traction of a part of the foreign body. This technique failed to remove the foreign body from the IVC, because both free ends were fixed hard to the hepatic venous wall. A retrieval catheter with forceps at the tip was inserted, which enabled us to grasp a portion of the foreign body and remove it entirely from the IVC. The foreign body was confirmed to be identical in length to an entire guidewire. Cardiac dysrhythmias and signs and symptoms indicative of pulmonary embolism did not develop throughout the postoperative course.

In conclusion, guidewire retrieval is a crucial step in a catheterization technique wherein a catheter is inserted over a guidewire.

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Problems in Assessing the Effect of Nebulized Prostacyclin in Patients Whose Lungs Are Ventilated

To the Editor:—Pappert *et al.*[1] described the use of nebulized prostacyclin (PGI_2) *versus* inhaled nitric oxide in children with acute respiratory distress syndrome. We realize that the authors studied only three children and, as such, did not derive any conclusion from the study other than that PGI_2 may be an alternative to nitric oxide as a selective pulmonary vasodilator. From this paper, it is questionable whether the clinical benefits of PGI_2 may be offset by a rebound increase in pulmonary artery pressure. The baseline figures of pulmonary artery pressures did not greatly vary between increasing concentrations of nitric oxide. However, in two of the children, there was a marked increase in the pulmonary artery pressure during the interval between the different doses of PGI_2. It would be interesting to know, after each dose of PGI_2, how long the period was before measuring the baseline variables. We also wonder whether the variation of effects of different concentrations of PGI_2 may be due to the effect of positive end-expiratory pressure (PEEP) on the nebulizer. In Glasgow, we have been investigating benefits of nebulizing drugs in patients whose lungs are ventilated. We have had difficulty in obtaining an ultrasonic nebulizer that will perform well in the presence of PEEP. We wonder whether the authors assessed this before their study.