

Pulmonary Vein Catheterization—An Unexpected Location of a Central Venous Catheter Placement

To the Editor:—The use of the internal jugular vein for the insertion of central venous catheters involves risks of malposition, the incidence of which is between 0.8%¹ and 5.7%.² We report an unusual case of misplacement into a pulmonary vein via the left internal jugular vein.

A 64-year-old man underwent a right colectomy for adenocarcinoma. The insertion of a central venous catheter via the jugular vein for postoperative nutritional support was planned. After induction of anesthesia, several attempts were unsuccessful on the right side, but catheterization of the left internal jugular vein was achieved with the first attempt. A catheter was inserted easily and could be perfused and blood easily withdrawn. The pressure wave was not recorded and during the procedure the catheter was perfused with a 5% dextrose and water solution. Controlled ventilation persisted in the recovery room, where a chest roentgenogram was taken (fig. 1).

At FI_{O_2} 0.4, Pa_{O_2} was 150 mmHg from the radial artery and 205 mmHg from the jugular vein catheter. At FI_{O_2} 1.0, Pa_{O_2} was 375 mmHg, while that from the jugular vein catheter was 498 mmHg, so the catheter was likely located in the pulmonary vein draining a part of the lung

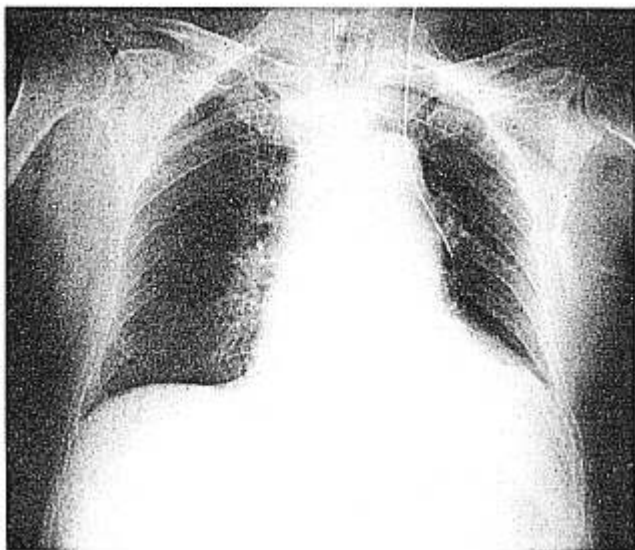


FIG. 1. Initial chest roentgenogram showing the location of the catheter.

where pulmonary shunting was lower than in the whole lung.

The pressure wave was recorded; the ventilator turned off, the wave was consistent with a pulmonary artery pressure. The pressure wave could only be interpreted as the wedge pressure of a pulmonary vein.³ The catheter was withdrawn under fluoroscopic control and the postoperative course was uneventful; an echocardiographic examination showed no abnormalities.

The catheterization of a pulmonary vein may be due to a perforation of a brachiocephalic vein with an ectopic course through the mediastinum and then another perforation of a pulmonary vein, which seems quite impossible; the most likely diagnosis is that of an abnormal pulmonary venous return in the left brachiocephalic vein through a residual vena cava. Such a hypothesis explains the lack of complications. This observation emphasizes the potential hazard of catheterization of the left internal jugular vein.⁴

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