Inadvertent Cannulation of an Aberrant Radial Artery

To the Editor:—I wish to describe inadvertent cannulation of an aberrant radial artery.

A 67-yr-old man was scheduled for resection of an abdominal aortic aneurysm. Examination of the radial arteries revealed a good pulse in the left and a poor pulse in the volar aspect of the right wrist. A 20-gauge catheter was easily inserted percutaneously into the left radial artery. A tourniquet was placed around the right upper arm, and a large “vein” appeared on the lateral aspect of the right wrist, at the common location for a large tributary of the cephalic vein. A 14-gauge cannula was easily inserted, but was found to be intraarterial when connected to the iv tubing. The catheter was removed, and direct pressure was applied for 5 min over the site. The patient had an otherwise uneventful procedure, and a postoperative exam revealed a strong pulse at the cannulation site. The pulse disappeared when the tourniquet was placed on the upper arm. There was no history of a prior procedure, trauma, or cannulation in that area, and there was no evidence of an arteriovenous fistula.

The radial artery appears proximal to the wrist between the tendons of the brachioradialis and the flexor carpi radialis. It turns laterally at the wrist deep to the tendon of the abductor pollicis longus to reappear in the “anatomic snuffbox” between the extensor pollicis longus and the extensor pollicis brevis. An uncommon branch of the radial artery travelling superficial and lateral to the abductor pollicis longus has been described, with a frequency of 0.8%. Clinicians should be aware of this variant because potential complications of entering the artery with a large cannula intended for venous placement include arterial disruption necessitating surgical repair, arteriovenous fistula, and extensive hematoma formation in the wrist with subsequent nerve compression.

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REFERENCES
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Pollution Associated with Keyed Filling Devices

To the Editor:—Studies concerning the possible hazards of trace anesthetic gases and vapors have encouraged both scavenging these gases and vapors and improved high turnover ventilation of the air in operating rooms. These measures have lowered the average concentrations of anesthetic gases and vapors in ORs and recovery areas. Most published studies and guidelines refer to timed average concentrations of trace anesthetic vapor and gases. However, when the vaporizers are being filled, the vapor can often be smelled even when the filling instructions of the manufacturer are followed very carefully. The level at which halothane vapor can be smelled is 10 parts per million (ppm), which is five times the recommended safe level. We decided to find out how much anesthetic vapor an anesthetist is exposed to when filling the vaporizers commonly used in our department. In four different operating rooms using the MIRAN IA trace gas analyzer, the concentration of vapor was measured 2 inches away from the nose of the person filling three Cyprane TEC 4 vaporizers, one each for enflurane, isoflurane, and halothane. The airflow of the ventilation of each room was also measured.

We found no correlation between either the peak concentration or the washout time to the room air turn-

* ASA Ad hoc Committee on Effects of Trace Anesthetic Agents on Health of Operating Room Personnel: Waste Anesthetic Gases in Operating Room Air: A Suggested Program to Reduce Personnel Exposure
† Criteria for a Recommended Standard . . . Occupational Exposure to Waste Anesthetic Gases and Vapors. DHEW (NIOSH) Publication No. 77-140, March 1977
‡ TEC 4 Continuous Flow Vaporizer Operators Manual, CY 548, p 9-10, 1983