

An Unintended Cannulation of Aberrant Radial Artery!

Sir,

The unintended cannulation of aberrant radial artery was first reported in 1939.^[1] The overall incidence of aberrant radial artery is found to be 0.8–1.0%.^[2,3] The accidental placement of cannula in an aberrant artery could be disastrous. If a drug is injected in to the artery inadvertently, it can lead to numerous complications. The highly lipid-soluble drugs (e.g., midazolam) are more likely to be problematic, because the high concentration of drugs can cause thrombosis, edema, and gangrene.^[4] The immediate complications include severe pain, swelling of hand and forearm, and cyanosis of fingers. As delayed complications, severe nerve damage and compartment syndrome can occur. It has been observed that the extent of tissue damage is more extensive with brachial artery than radial artery injections.^[5] There have been case reports of accidental intra-arterial injections of inducing agents such as sodium thiopentone and propofol.^[5,6] The mechanisms leading to vascular injury include arterial vasospasm, thrombosis, and the precipitation of injected drug. The treatment regimen for inadvertently injected drug include: Heparinized saline instillation, keeping the catheter in place, intra-arterial papaverine, local anesthetics, brachial plexus block, and stellate-ganglion block. There are reported cases of unintentional aberrant arterial cannulation in patients with cardiac and thyroid illness.^[7,8]

We report a 60-year-old female diagnosed as a case of anterior communicating vessel (ACOM) aneurysm posted for left pterional craniotomy and clipping under general anesthesia. Her ictus was 9 days back, when she complained of a sudden headache, associated with nausea and vomiting. The digital subtraction angiography (DSA) was suggestive of ACOM aneurysm directed anterosuperior and filling from left side. Her Glasgow Coma Scale (GCS) deteriorated further from E3V5M6 to E1V2 M5. The airway was secured with 7.0 mm internal diameter (ID) endotracheal cuffed tube in neurointensive care unit (NICU). General anesthesia was induced with 20 gauge cannula *in situ* with fentanyl 2 mcg/kg, propofol 2 mg/kg, and rocuronium 1 mg/kg. The right subclavian vein cannulation was performed under aseptic precaution for central venous pressure monitoring and fluid resuscitation. After induction of anesthesia, it was decided to secure another venous access on the right wrist with an 18 gauge cannula [Figure 1]. A pulsatile backflow of blood in the tubing was observed. The fluid infusion was stopped immediately. A very prominent arterial pressure waveform appeared on monitor. A sample of blood was sent for blood gas analysis to reconfirm the waveform and the findings were

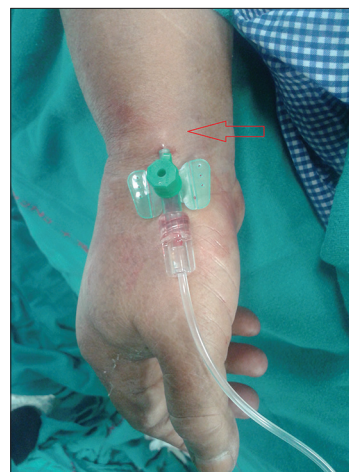


Figure 1: Cannulation of the right aberrant radial artery with 18 gauge cannula

suggestive of arterial blood. A decision was taken to remove the 18 gauge cannula in the aberrant artery to avoid any untoward incident. For further arterial pressure monitoring, right posterior tibial artery was cannulated. On examination, left-sided radial artery course was found to be normal. The intraoperative course remained uneventful. The patient's trachea was extubated and shifted to NICU for further management and monitoring.

Close observation during venous cannulation may be helpful in preventing such accidental cannulations of aberrant vessels. If at all the accidental cannulation is done, it should be recognized and treated promptly. The anestheologist should have an awareness about potential abnormal distribution of arterial anatomy in the hand. The vessel should be palpated for pulsation before cannulation and the tourniquet should be loose enough to allow us to see the arterial flow.

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Conflicts of interest

There are no conflicts of interest.

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Letter to Editor

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