

## *Letters to the editor*

### **Radial artery cannulation using the Insyte-A device with ultrasound assistance**

**Yushi U. Adachi, Sakiko Uchisaki, Katsumi Suzuki, Taiga Itagaki, Yukako Obata, Matsuyuki Doi, and Shigehito Sato**

Intensive Care Unit of University Hospital, Hamamatsu University School of Medicine, 1-20-1 Handayama, Higashi-ku, Hamamatsu 431-3192, Japan

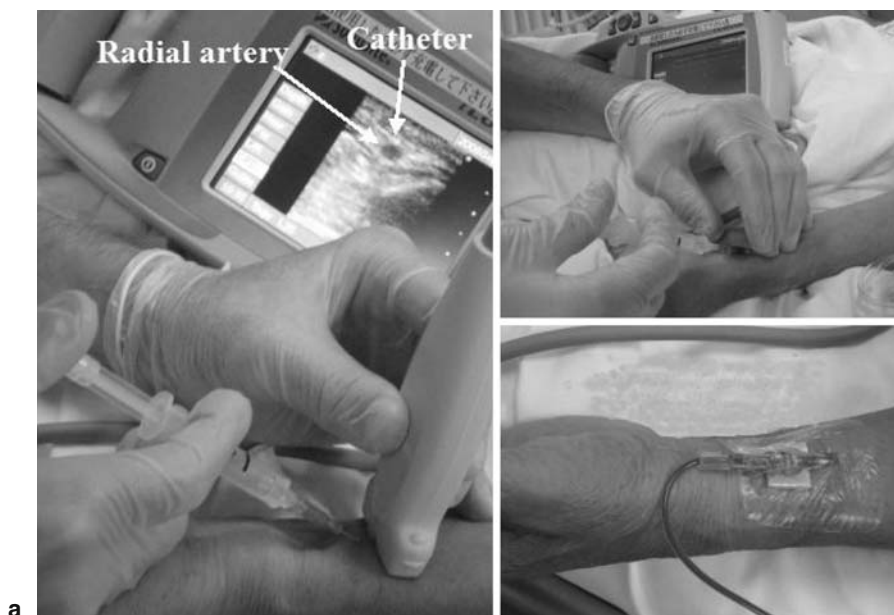
*To the editor:* Previously, we reported a “cigarette-holding method” for radial artery cannulation using the Insyte-A device (BD Medical Japan, Tokyo, Japan) [1]. During arterial cannulation, the device is held with the index and middle fingers, just like a cigarette, and the thumb is prepared for advancing the guidewire freely. This method creates an advantage for successful cannulation, because the guidewire is introduced into the vessel lumen promptly with the least movement, except for that of the unoccupied thumb of the skillful hand.

Arterial line placement is usually performed by palpation of the radial artery using the unskillful hand; however, the absolute dimensional relationship between the anatomical position and the pulsation detected by the finger can be ambiguous. Moreover, when the pulse becomes faint, the landmark is lost and arterial catheterization becomes burdensome. Although the advantage of using ultrasound imaging for

radial artery cannulation was recently emphasized [2–5], the conventional arterial cannulation method limits the implementation of ultrasound imaging, because the physician has to insert the outer cannula into the artery using the unskillful hand after releasing the ultrasound probe. The effect of this supplemental movement on the critical procedure may be related to cannulation failure.

To overcome this problem, we apply ultrasound imaging with the probe being handled with the unskillful hand, using the cigarette-holding method with the Insyte A device (Fig. 1). Using this method, the anesthesiologist is able to puncture the artery with the image guidance, and, once the guidewire is introduced into the artery only with the thumb, the ultrasound probe can be released without difficulty, because the connection between the artery and guidewire is established and confirmed. After the releasing action, the outer cannula can be easily advanced with the unskillful hand. Until now, we have carried out more than 30 approaches; only 2 failed, because of difficulty owing to re-cannulation.

This combination method of using ultrasound assistance for radial artery cannulation with the Insyte-A device has advantages for cannulation. We were able to administer a sufficient amount of local anesthetic into the subcutaneous space of the puncture site. Also, the swelling caused by fluid infusion did not disturb the ultrasound imaging. Especially for cannulation in an awake patient, this would be of great value. Another advantage is that we can approach the radial artery at a more proximal site, because the physician is not required to detect



**Fig. 1.** **a** The cigarette-holding style and the puncture procedure carried out with ultrasound assistance. The probe is held with the unskillful hand; the radial artery is identified in the center of the screen. **b** After the successful insertion of the guidewire, we can easily release the probe and the outer cannula is advanced into the radial artery using the unskillful hand. **c** With ultrasound assistance, puncture at a more proximal site is possible

the pulsation of the artery [2,3]. We believe the cigarette-holding method with ultrasound assistance is a very easy technique for radial artery cannulation using the Insyte-A, and the technique appears to be highly successful.

## References

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*Address correspondence to:* Y.U. Adachi

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