

## IMAGES IN INTERVENTION

# A New Method for Hemostasis of a Pseudoaneurysm Using Autologous Blood



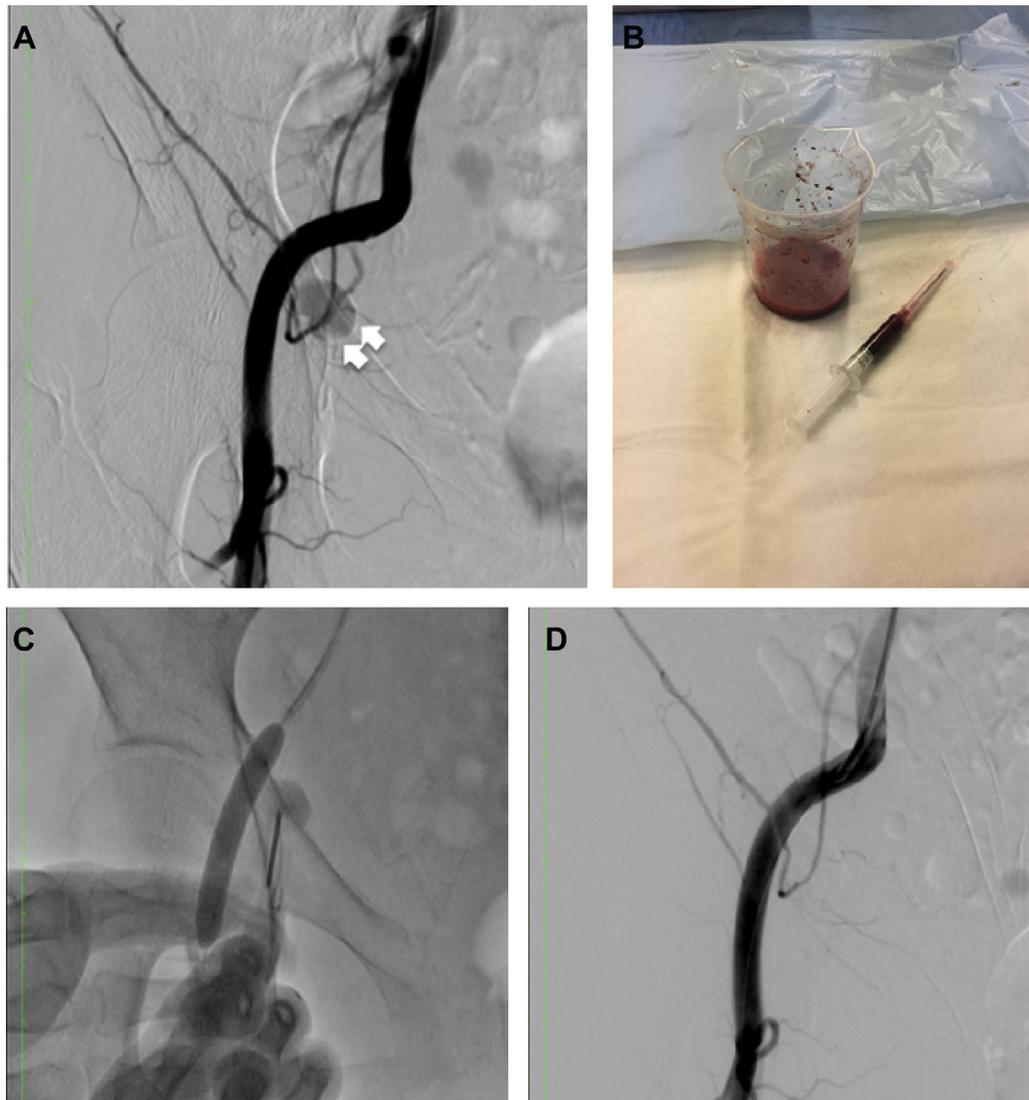
Daisuke Ueno, MD, Kenji Yanishi, MD, PhD, Kan Zen, MD, PhD, Satoaki Matoba, MD, PhD

A 70-year-old female dialysis patient underwent percutaneous coronary intervention using the right common femoral approach because of effort angina. She reported pain and a hematoma in the right femoral region a few hours after compression by hand. Abdominal computed tomographic angiography showed a pseudoaneurysm and retroperitoneal bleeding near the right common femoral artery. We attempted hemostasis for the pseudoaneurysm without an anticoagulant agent, but we could not stop the bleeding with hand compression and balloon inflation (**Figure 1A**). Hence, we attempted a novel method of hemostasis for the pseudoaneurysm. First, the sheath was inserted and approximately 20 ml of the patient's own blood was drawn. This autologous blood was separated into serum and clotted blood, and the clotted blood was subsequently transferred into a syringe (**Figure 1B**). After we confirmed the pseudoaneurysm by angiography, the syringe with an 18-gauge needle was advanced while applying negative pressure toward the pseudoaneurysm. The draining site of the contrast medium was within the pseudoaneurysm, so we injected the clotted autologous blood directly

into the pseudoaneurysm while inflating the balloon (**Figure 1C**). Hemostasis was successful immediately after injection of the clotted blood (**Figure 1D**). We speculated that the blood flow into the pseudoaneurysm became stagnated by the injection of the blood clot, and the fibrin contained in the clot promoted hemostasis.

Hemostasis by direct injection of thrombin reportedly has a high success rate, but complications can occur, such as thrombosis and allergies (1,2). Hemostasis by autologous blood is simpler and safer than that by thrombin with respect to the occurrence of thrombosis due to intra-arterial infusion and allergy. Hemostasis using clotted autologous blood may become an effective treatment for some pseudoaneurysms for which it is difficult to stop bleeding.

**ADDRESS FOR CORRESPONDENCE:** Dr. Kenji Yanishi, Department of Cardiovascular Medicine, Graduate School of Medical Science, Kyoto Prefectural University of Medicine, Kawaramachi-Hirokoji, Kamigyo-ku, Kyoto 602-8566, Japan. E-mail: [yanishi@koto.kpu-m.ac.jp](mailto:yanishi@koto.kpu-m.ac.jp).

**FIGURE 1** Hemostasis Using Clotted Autologous Blood for a Pseudoaneurysm

**(A)** Lower extremity angiography shows a pseudoaneurysm and bleeding near the right common femoral artery (**arrows**). **(B)** The patient's own blood that was drawn upon insertion of the sheath and the syringe into which the clotted autologous was transferred. **(C)** The clotted blood was directly injected into the pseudoaneurysm using the syringe with an 18-gauge needle. **(D)** Lower extremity angiography shows hemostasis after injection of the clotted autologous blood.

## REFERENCES

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**KEY WORDS** autologous blood, blood clot, pseudoaneurysm