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A New Method for Hemostasis of a Pseudoaneurysm Using Autologous Blood

A 70-year-old female dialysis patient underwent percutaneous coronary intervention (PCI) using the right common femoral approach because of effort angina. She complained of pain and a hematoma in the right femoral region a few hours after compression by hand. Abdominal computed tomography angiography showed a pseudoaneurysm and retroperitoneal bleeding near the right common femoral artery. We attempted hemostasis for the pseudoaneurysm without an anticoagulant, but we could not stop the bleeding with hand compression and balloon inflation. 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. After we confirmed the pseudoaneurysm by angiography, the syringe with an 18-gauge needle was advanced while applying negative pressure towards 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. Hemostasis was successful immediately after injection of the clotted blood. 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. Hemostasis by autologous blood is simpler and safer than is 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.