Iatrogenic radial artery perforation during transradial coronary angiography

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A 60-year-old woman was admitted for exertional chest pain over the past 6 months. An electrocardiogram showed normal findings. An exercise treadmill test using Bruce’s protocol showed a horizontal ST segment depression of about 1 mm in leads II, III, and aVF during stage 3 exercise. We performed coronary angiography via the right transradial approach. After local anesthesia, the radial artery was cannulated with a 20 gauge needle through which a straight-tipped 0.021″ guide wire, included in the Terumo transradial kit, was advanced, and a 4F radial arterial sheath was inserted. A retrograde radial arteriogram, performed as a routine procedure, showed extravasation of contrast from the iatrogenic radial artery perforation caused by the guide wire (Fig. 1). The patient remained asymptomatic, and we were able to advance a hydrophilic 0.025″ guide wire through the perforated radial artery. Over this, we advanced a 4F RM® angiography catheter (Jungsung Medical) and completed the programmed coronary angiography. The left and right coronary angiography showed no stenosis (Fig. 2). A retrograde radial angiogram showed a patent radial artery with no extravasation of contrast (Fig. 3). After removal of the arterial sheath, we applied an elastic bandage on the forearm, and the puncture site was compressed with a hemostatic device (Radistop®, Radi Medical Systems, Reading, MA, USA). Two hours later, the patient was discharged. After 5 days, some bruises remained on the forearm (Fig. 4), but there was no swel-
Figure 2. The right and left coronary angiography showed no stenosis.

Figure 3. Final retrograde radial angiogram after coronary angiogram showed a patent radial artery with no extravasation.

Figure 4. Five days after the coronary angiogram. Some bruises remained on the forearm, but there was no swelling, and radial pulsation was good.

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Her final diagnosis was microvascular angina.

Key Words: Radial artery; Iatrogenic disease; Angiography

중심 단어: 요골동맥; 의인성 질환; 혈관조영술