

Figure 3. (a) Right pectoral side swelling (black arrow) and ecchymosis extending through the epigastric region (photo taken 1 day after the intervention). (b) Hematoma of 3.8 cm in the right pectoral muscle seen on thorax CT (black arrow)

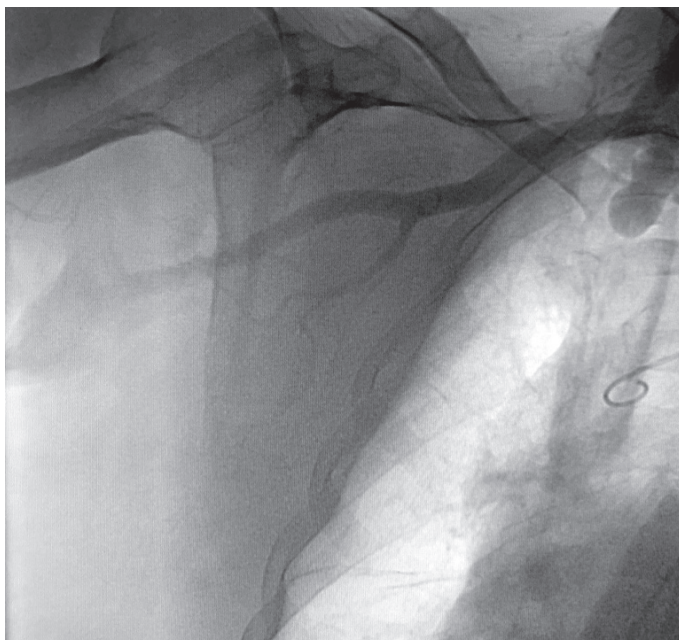


Figure 4. Right subclavian angiography revealing no sign of contrast blush of a possible perforation

through the axillary artery to the aortic arch was achieved by changing to 0.035 inch stiffer hydrophilic wire. The patient complained of a dull right-sided chest pain 2 h after the procedure. There was no coronary ischemia visible on ECG, but ecchymotic tender swelling was noted on the right pectoral region (Fig. 3a). Thorax CT revealed a right pectoral muscle hematoma (Fig. 3b). His axillary and subclavian angiography revealed no extravasation (Fig. 4). Both patients were followed up with cold press and firm bandage over the hematoma.

Tortuosity at the arterial route and difficulty in accessing aortic arch are factors that pursue us for further wire and catheter manipulations during transradial angiography. Manipulations should be done gently, slowly, and always under fluoroscopy for decreasing the risk of branch perforation.

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Simple and inexpensive way for the treatment of guidewire-induced distal coronary perforation: subcutaneous fat tissue embolization

A 57-year-old man with a diagnosis of acute anterior myocardial infarction was admitted to the catheterization laboratory for primary percutaneous coronary intervention. Left anterior descending artery (LADa) was seen subtotally occluded immediately after the first diagonal artery (D1a) branching with TIMI 1 distal flow on coronary angiogram (Fig. 1a–c, Video 1–3). LADa and D1a were passed by a soft guidewire. After predilatation of the culprit lesion, guidewire-induced coronary perforation was noticed at the distal segment of D1a (Fig. 1d, Video 4). After 20 min inflation of balloon (Fig. 1e, f) at the perforation segment and culprit lesion treated by stent implantation, extravasation was found to be diminished (Fig. 1g, h, Video 5, 6). Echocardiography revealed minimal pericardial effusion without tamponade sign. On the development of clinical and echocardiographic tamponade signs at the first hour, fluoros-

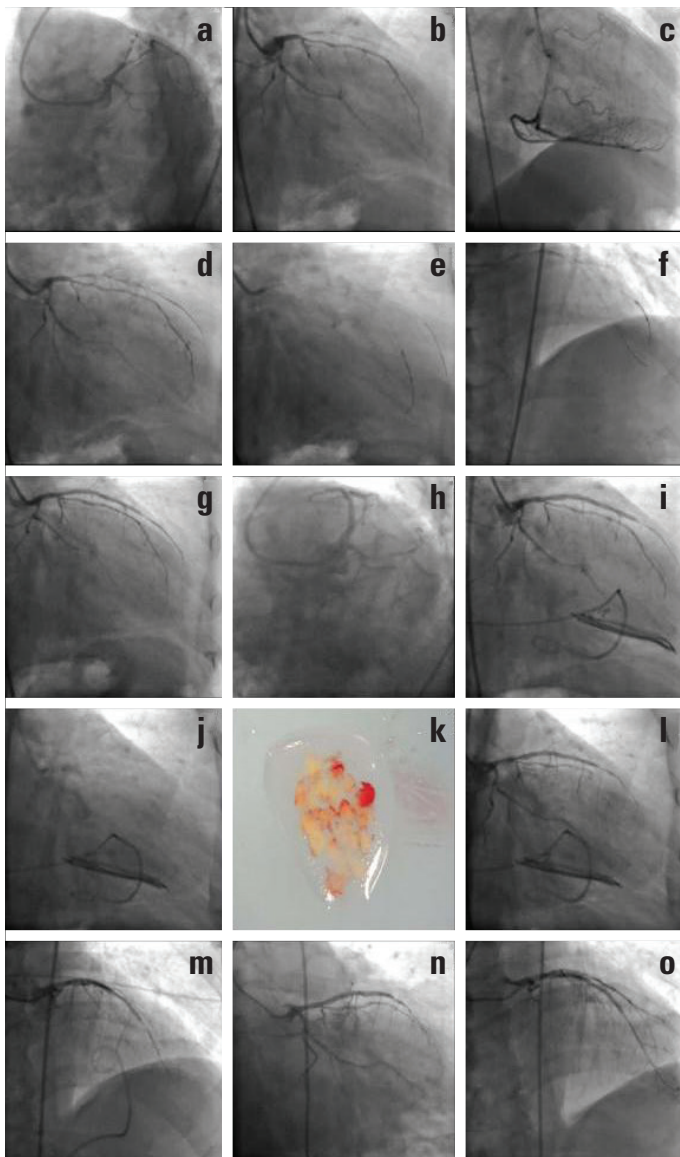


Figure 1. Coronary angiography images of the patient. (a) Preprocedural LAO caudal view of LADa and D1a artery. (b) Preprocedural RAO caudal view of LADa and D1a artery. (c) RAO view of LADa that filled from RCA by septal collateral branches. (d) RAO caudal view of guidewire-induced coronary perforation at the distal segment of D1a. (e, f) RAO caudal and AP cranial view of balloon inflation at the perforation segment. (g, h) RAO and LAO caudal view of diminished extravasation after prolonged balloon inflation at the perforation segment. (i) RAO caudal view of increased extravasation. (j) RAO caudal view of microcatheter placement to 20 mm before perforation segment. (k) 1×1 mm sliced fat tissue pieces. (l, m) RAO caudal and AP cranial view of interruption of distal D1 artery flow. (n, o) RAO caudal and AP cranial view of no distal D1a flow on the fourth day

copy-guided pericardiosynthesis was performed and 600 mL blood was drained. Coronary angiogram revealed increase in extravasation again (Fig. 1i, Video 7), and perforation site was passed by a soft guidewire. Microcatheter was advanced to 20 mm before the perforation segment (Fig. 1j). Three pieces of subcutaneous fat tissue, which obtained from the puncture site and sliced to 1×1 mm size (Fig. 1k), were given distal segment of D1a through microcatheter finally distal flow was interrupted (Fig. 1l, m; Video 8, 9). Echocardiography showed minimal pericardial effusion, and the pericardial catheter was removed on the second day. On the fourth day, control coronary angiogram revealed TIMI 3 distal LADa flow and interrupted distal D1a flow (Fig. 1n, o; Video 10, 11). The patient was discharged on the seventh day.

Video 1. Preprocedural LAO caudal view of LADa and D1a artery.

Video 2. Preprocedural RAO caudal view of LADa and D1a artery.

Video 3. RAO view of LADa that filled from RCA by septal collateral branches.

Video 4. RAO caudal view of guidewire-induced coronary perforation at the distal segment of D1a.

Video 5. RAO caudal view of diminished extravasation after prolonged balloon inflation at the perforation segment.

Video 6. LAO caudal view of diminished extravasation after prolonged balloon inflation at the perforation segment.

Video 7. RAO caudal view of increased extravasation.

Video 8. RAO caudal view of interruption of distal D1 artery flow. RAO - right anterior oblique; AP - anteroposterior; D1a - first diagonal artery; LAO - left anterior oblique; LADa - left anterior descending artery.

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