Images in cardiovascular medicine

Severe "candy-wrapper" spasm of the right coronary artery associated with direct stent implantation

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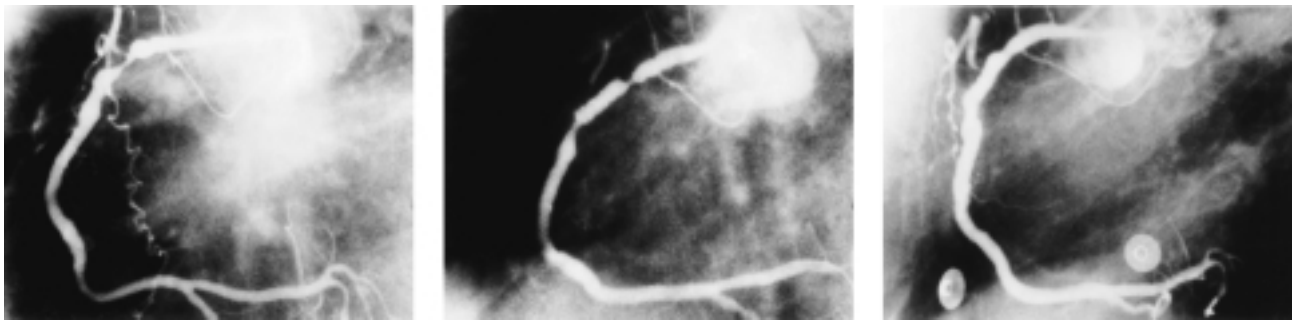
A 59-year-old woman with a history of stable effort angina and repeated balloon angioplasty on the proximal left anterior descending and first diagonal branch, was admitted to our coronary care unit due to acute inferior myocardial infarction. After successful intravenous thrombolysis, no Q waves were observed on the electrocardiogram, while residual inducible ischemia was documented on subsequent bicycle stress testing. The patient was therefore referred to the catheterization laboratory for elective coronary angiography. The examination, besides showing subcritical stenoses of the ostial left main and distal left anterior descending coronary artery, revealed a severe concentric stenosis of the proximal right coronary artery (Fig. 1A). Immediate percutaneous revascularization of the right coronary artery was therefore planned. After engagement of the right coronary ostium with a JR4 6F guiding catheter (Cordis Europa, Roden, The Netherlands), a Stabilizer Soft 0.014" intracoronary guidewire (Cordis Europa) was advanced to the distal right coronary artery. Direct stenting with a 3.5 × 12 mm S670 stent (Medtronic AVE Ireland, Galway, Ireland) inflated at 14 atm for 15 s, was then performed.

Immediately after withdrawal of the delivery system, the patient started complaining of chest pain and ischemic electrocardiographic changes appeared on the monitor. Upon coronary injection, severe coronary spasm, both at the proximal and distal ends of the stent, was documented (Fig. 1B). Repeated 200 μg intracoronary boluses of nitroglycerin (total 800 μg over 10 min) were administered until resolution of the coronary spasm and cessation of symptoms were achieved (Fig. 1C).



A B C

Figure 1. *Left anterior oblique view of the right coronary artery showing:* A) *severe concentric proximal stenosis;* B) *severe "candy-wrapper" spasm after stent deployment both at the proximal and distal ends of the stent;* C) *resolution of coronary spasm after repeated boluses of intracoronary nitroglycerin.*