1037

From complication to resolution: Bailout strategies in RCA iatrogenic dissection

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A woman in her 60s with chest pain on exertion was referred to our department by a cardiologist of a local hospital on suspicion of stable angina pectoris. Coronary CT showed severe stenosis in the proximal portion of LAD and the mid portion of RCA, so she was admitted to our department for coronary angiography. Coronary angiography showed 90% stenosis in mid RCA and 90% stenosis in proximal LAD, and we decided to perform PCI for RCA after treatment of LAD. We engaged to RCA with 6Fr IL 3.5, but the guidewire could not pass through from RCA ostium. After the injection of contrast agent was performed, spiral dissection occurred and blood flow disappeared from the proximal portion of the RCA. The guidewire was advanced to the mid RCA, and IVUS was performed. The IVUS was located in the false lumen, suggesting that the guiding catheter caused an iatrogenic coronary artery dissection. An electrocardiogram showed ST-segment elevation of the inferior leads with complete atrioventricular block, and an 8Fr sheath was immediately inserted through the right femoral artery. An 8Fr JR 4.0 was engaged to RCA, and the 2nd guidewire was successfully advanced into the true lumen under real-time IVUS guide. The blood flow was finally obtained by the implantation of DES 3.0x33mm and DES 3.5x38mm, and the procedure was completed.

There are few guidelines on how to deal with iatrogenic coronary artery dissection, but the expert consensus document on bailout algorithms for complications in PCI, as well as iatrogenic coronary artery dissection, has been developed in Japan. It is a complication that requires prompt individual judgment and response, and is one of the complications that can be fatal in the worst case. Double guide catheter technique is the one of the bailout techniques when a complication like coronary perforation occurs. In my case, we succeeded in the bailout of right coronary artery iatrogenic dissection with double guide catheter technique under real-time IVUS guide. In this report, we describe a case of prompt bailout of a patient with iatrogenic right coronary artery dissection based on a review of the literature.