Newly developed lesions in right coronary artery during PCI

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Answer 4:

In the differential diagnosis, when newly appeared lesions that involves proximal segment of RCA were seen, firstly coronary dissection should be taken into consideration. Coronary dissection that generally occurs as a complication of catheter manipulation is characterized by filling the defects on contrast injection, detection of dissection flap or false and true lumens. These characteristics of dissection cannot be seen in angiographic images of this patient.

In this patient, before PCI for RCA, transcatheter administration of nitroglycerin (200 microgram) into the RCA was applied because of excluding the vasospasm and no resolution was demonstrated by angiography.

Another differential diagnosis of these angiographic images is coronary emboli associated with guiding catheter. Embolization of thrombotic material to coronary artery can be visible on the angiogram as a distal filling defect with abrupt cut-off in the RCA, hazy appearance and an irregular surface of lesion but these characteristics of thromboemboli cannot be found in angiographic images of this patient.

Use of the extra-support wires could potentially facilitate advancement of balloons and stents through tortuous or calcified coronary arteries during PCI. The extra-support wire could be used for easier advancement through tortuosity of proximal RCA segment in this presented case. The stiff wire could straighten the proximal RCA segment and cause deformation with an appearance as coronary artery dissection. After the stent was positioned across the distal RCA lesion and deployed successfully, the wire was then withdrawn slowly and dissection like appearance disappeared on control angiographic image (Fig. 2, Video 2). Finally, we made the diagnosis of accordion effect. Answer is 4. The accordion effect is seen when tortuous vessel is straightened with an extra-support guidewire (1, 2). The diagnosis of the accordion effect is made by pulling the causative device completely out. Reversal of accordion effect differentiates the coronary spasm, dissection and thrombosis. It is necessary to distinguish the accordion effect from these causes of stenosis; because the management is considerably different. The interventional cardiologist should keep in mind that this phenomenon which is described as "accordion effect" and can mimick coronary dissection or spasm, is seen during the advancement an extra support wire across the tortuous coronary vessels.

Figure 2. After the wire was withdrawn, dissection like appearance disappeared in proximal segment of RCA

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Video 2. After the wire was withdrawn, dissection like appearance disappeared in proximal segment of RCA

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