Spontaneous rupture of a coronary artery

Rupture spontanée d’un anévrisme coronaire

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Coronary artery aneurysms are rare and giant forms (> 2 cm diameter) are even less common, with a prevalence of 0.02% and spontaneous rupture rarely observed. Most aneurysms in young patients are congenital, traumatic or due to Kawasaki disease. Other aetiologies include inflammatory disease, such as Behçet’s disease, polyarteritis nodosa, systemic lupus erythematosus and syphilis. The main cause in older patients remains atherosclerosis, although some cases of coronary aneurysm formation related to bare-metal stent implantation have also been described. The aneurysms generally remain silent or induce myocardial ischaemia but are rarely revealed by life-threatening complications.

In our case, a 59-year-old man was admitted in emergency to our catheterization laboratory for primary percutaneous coronary intervention (PCI) for inferior myocardial infarction. The patient was a former smoker and had dyslipidaemia and high blood pressure. He had a past history of coronary disease: after admission for an ST-segment elevation myocardial infarction in 2005, coronary angiography found ectasic coronary arteries – especially the right artery – with distal occlusion of the right posterior atroventricular segment. After failure of PCI, medical therapy, including a vitamin K antagonist, was initiated and he remained asymptomatic. A coronary angiogram showed diffuse atheromatous infiltration on the left branch, with ectasic deformation of the proximal left anterior descending artery (Fig. 1). As we first injected the right coronary artery (RCA), before any wiring, we noted not only an aneurysm of the mid segment but also pericardial effusion due to spontaneous rupture (Fig. 2). Haemodynamic variables

Abbreviations: PCI, percutaneous coronary intervention; RCA, right coronary artery.
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Figure 1. Coronary angiography of the left coronary arteries showing aneurismal deformation of the left anterior descending artery (cranial right incidence).

Figure 2. Coronary angiogram of the right coronary artery demonstrating aneurismal deformation of the mid segment and diffusion of the contrast product into the pericardium (oblique left anterior view).

Figure 3. Intraoperative photo showing the giant aneurysm (4 × 4 cm) on the mid segment of the right coronary artery with evidence of fissuration (arrow).

deteriorated rapidly and despite pericardial drainage, the patient collapsed and was transferred to the operating theatre under external cardiac massage. An emergency median sternotomy was performed and the heart was examined, revealing a giant aneurysm measuring 4 × 4 cm, located on the mid segment of the RCA with evidence of fissuration (Fig. 3).

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.acvd.2012.09.007.