

A case of rupture of Sinus of Valsalva as a rare complication of Diagnostic Coronary Angiography

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Coronary angiography (CAG), which is useful diagnostic tool for coronary artery disease, can cause complications. The incidence of complication increases when percutaneous coronary angioplasty (PTCA) is performed. We would like to introduce a case of rupture of Sinus of Valsalva (SoV) occurred after diagnostic CAG without PTCA. A 67-year-old male who had no past medical history visited emergency department due to dyspnea. Initial vital signs showed high blood pressure, tachycardia and tachypnea with desaturation. The initial laboratory finding showed, elevated cardiac enzymes (CK 626U/L, CK-MB 4.5ng/mL, high-sensitivity Troponin I 700.15pg/mL, NT-proBNP 22635pg/mL). Transthoracic echocardiogram (TTE) revealed severe aortic valve stenosis (PSPG : 82mmHg, meanPG : 55mmHg, AVA : 0.76cm²) with bicuspid aortic valve (R-L fusion type) (Fig. A). Surgical Aortic Valve Replacement (SAVR) was planned in Heart team after considering relatively young age. Preoperative CAG was performed to find out hidden coronary artery disease. Diagnostic CAG was performed in usual methods without any difficulty using Judkins right 4-4 and Judkins left 4-4 catheter. There was no significant stenosis in the coronary arteries, and study was finished without immediate complications. Additional TTE was performed before SAVR. TTE showed suspected lesion of ruptured SoV (Fig. B) and hematoma located right ventricle side of basal anteroseptum. Cardiac computed tomography scan confirmed the diagnosis of ruptured SoV with hematoma formation (Fig. C). SAVR was done with using pericardial aortic bioprosthesis (Magna Ease 23mm) and patch closure was done for ruptured SoV with using bovine pericardium (Fig. D). Postoperative TTE showed resolved no abnormal blood flow around SoV. After successful surgery, patient was discharged without any symptoms. A rupture of SoV is a rare cardiac problem usually related with SoV aneurysm. SoV aneurysm is congenital or acquired. In our case, we experienced a rupture of SoV after diagnostic CAG without angioplasty. Gentle manipulation and using small size of coronary catheter would be helpful to avoid this rare but serious complication during CAG.

