

1065 From Being benign to Leading to Catastrophe: A Case of intraprocedural acute RVMI causing VF managed with timely intervention

Introduction:

69 year old gentleman.

Diabetic, hypertensive.

History of stable angina functional class III.

Planned for bilateral total knee replacement surgery.

In his pre operative evaluation he underwent CAG at a peripheral hospital, was found to have two vessel disease.

Planned for elective PCI to RCA in our hospital with 2 DES stents in view of long segment disease.

Clinical Case:

During PCI RCA was engaged with JR 6f guiding catheter.

Lesion was crossed with guide wire and pre-dilatation was done with NC 2.5 x 12mm balloon.

DES 3.5 x 48mm stent was deployed into mid RCA and DES 3.5 x 28mm stent in proximal RCA (both at 12 ATM).

Post dilatation was done with NC balloon 4 x 12 mm at 18 ATM.

TIMI III flow was achieved in RCA with TIMI 0 flow in RV branch, patient was asymptomatic with no ECG changes and was shifted to post cath ward.

One hour post procedure patient had multiple episodes of VF which required Defibrillation, Sinus rhythm ECG showed ST elevations in V1 to V4.

Echocardiography showed good LV and RV function. Patient was taken up for check CAG.

Left system was status quo and RCA injection showed a patent RCA stent with occluded RV branch.

Considering it a case of isolated RV infarction it was decided to open RV branch.

Guide wire was crossed into RV branch with help of microcatheter, 1.25 x 10 mm balloon was used for initial dilatation of RV branch, Gp IIb IIIa inhibitor bolus was given in RV branch with help of microcatheter.

RCA stent was optimised with 4.5 mm balloon with sentinel balloon inflated in RV branch with 1.5 x 15mm balloon (sentinel-balloon technique).

TIMI III flow was obtained in RCA and TIMI II flow in RV branch. Patient was stable post procedure and was discharged without any further adverse events.

Discussion:

Isolated RVMI occurs in less than 3% of all patients with myocardial infarction. It is described as occlusion of a nondominant RCA and, or loss of large RV branches during coronary angioplasty of the RCA.

When the inferior wall and right ventricle simultaneously become occluded, precordial ST elevation is often not detectable because, the dominant electrical forces of the inferior wall suppress the ECG changes caused by the ischemia of the ventricle.

Isolated RV infraction presents with ECG changes of ST elevation in V1 to V3 and V4R. Kida et al., demonstrated 57 patients undergoing PTCA of the right coronary artery and observed ST elevation in precordial leads caused by occlusion of the right coronary artery when the blood flow in all right ventricular branches was obstructed.

In literature cases of ventricular fibrillation caused by acute RVMI has been reported also few cases of nondominant right coronary artery occlusion that presented with sudden cardiac arrest and Timely intervention resulted in complete resolution of the ventricular arrhythmias.