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INTERVENTISTICA STRUTTURALE (CARDIOLOGIA INTERVENTISTICA, CORONARICA E STRUTTURALE)
COMPLICANZE DELLE PROCEDURE DI INTERVENTISTICA (CARDIOLOGIA INTERVENTISTICA, CORONARICA E STRUTTURALE)
INTERVENTISTICA CORONARICA (CARDIOLOGIA INTERVENTISTICA, CORONARICA E STRUTTURALE)
PATOLOGIA DELLA VALVOLA AORTICA (VALVULOPATIE)
SHOCK CARDIOGENO (ASSISTENZA CARDIACA IN ACUTO)

**LEFT VENTRICULAR INTRAMURAL HAEMATOMA SECONDARY TO
TRANSCATHETER AORTIC VALVE REPLACEMENT**

Simone Fezzi (a), Sofia Capocci (a), Giulia Urbani (a), Concetta Mammone (a),
Alessandro Ruzzarin (a), Gabriele Pesarini (a), Michele Pighi (a), Flavio Luciano Ribichini (a)

(a) UNIVERSITY OF VERONA

An 80-year-old woman was electively hospitalized at our institution to undergo transcatheter aortic valve replacement (TAVR) for severe aortic valve stenosis symptomatic for exertional dyspnea (NYHA III). At the admission she presented a normal electrocardiogram (EKG), a creatinine clearance (CrCl) of 36 ml/min, a normal size and hypertrophic left ventricle with a preserved ejection fraction (EF 70%). A pre-procedure coronary angiography was performed and showed absence of significant epicardic stenoses. A balloon-expandable valve (Edwards Sapien 26 mm) was successfully implanted via the trans-femoral access without intra-procedural complication and the patient was transferred to cardiology ward for monitoring; in the post-procedure, the patient complained of nausea and a feeling of vomiting, without other cardiologic symptoms; she had low blood pressure (BP 95/70 mmHg) with normal heart rate and oxygen saturation (Killip 1). An EKG was performed and showed a ST-elevation in antero-lateral leads, so a bed-side echocardiogram was performed showing a good function of TAVR but an ipo-akinesia of the left ventricle's lateral wall. The patient was transferred to the Cath lab and at the emergent coronary angiography no clear epicardic stenoses were seen, with a diffuse narrowing of an early obtuse marginal (OM) branch and of the distal branches of circumflex artery, suggestive for a spasm, that was refractory to repeated nitroglycerine infusions. A clear mismatch between coronary angiogram findings and EKG was detected. Considering the hemodynamic compromise and symptoms persistence a percutaneous transluminal coronary angioplasty of OM was performed with a partial ST resolution. The patient was transferred to the Coronary Unit Care where an echocardiogram was repeated confirming the good function of TAVR but outlining the presence of a voluminous intramural haematoma (> 30 mm of maximum diameter) with anterior, lateral and posterior wall akinesia and depressed left ventricle ejection fraction (EF 35%). A conservative management of the haematoma was chosen. The hospital stay was complicated by an acute pulmonary edema, requiring non-invasive ventilation, a cardiogenic shock, requiring inotropic (dobutamine) support, and an acute renal failure (creatinine peak 2,9 mg/dl with CrCl of 15 ml/min) with anuria, requiring continuous renal replacement therapy for two days; she developed a left branch block with no complete atrioventricular block. The pre-discharged echocardiogram showed a partially organized moderate pericardial effusion (1.3 cm) and moderate mitral regurgitation. After six months, she was asymptomatic, with a significant improvement of functional status (NYHA II) and a stable renal function (CrCl > 30 ml/min); no more echocardiographic signs of pericardial effusion were shown but the persistence of akinesia of the postero-lateral- and anterior- wall with depressed left ventricle ejection fraction (EF 37%) and moderate-severe mitral regurgitation. The persistence of good result of TAVR (aortic mean gradient 9 mmHg, absence of peri-valvular leak) was confirmed. Intramural dissecting haematoma (IDH) is a rare complication of myocardial infarction, chest trauma and percutaneous interventions; it consists of a cavity filled with blood, with the integrity of both the outer wall (myocardium and pericardium) and the inner wall (myocardium and endocardium) and it can develop in the left ventricle free wall, the right ventricle and the interventricular septum. IDH's formation may result from intra-myocardial vessels' rupture in the interstitial space. Never underestimate nausea as symptom: think about heart is challenging but mandatory!