A case of coronary vasospasm induced during head-up tilt test

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Syncope can have several causes. Few report have shown that head-up tilt test (HUTT) can provoke coronary spasm. We present a case in which coronary spasm was induced during a HUTT. A 47-year-old man had 3 episodes of syncope following mild chest discomfort in the early morning. Resting ECG, echocardiography and brain imaging were normal. We performed HUTT. After 20 minutes of passive 70° HUTT, syncope was developed. Blood pressure and heart rate decreased to 80/49 mmHg and 24 beats/min, respectively and transient ST segment elevation was observed in monitor lead II. The ST segment elevation only lasted for about 1 minute and disappeared after lying down. We suspected that the cause of syncope was coronary spasm. Coronary angiography (CAG) was performed to evaluate whether there were fixed coronary artery stenoses or not. CAG showed no significant luminal narrowing. However, just after injection of methylergonovine 40 μg into the right coronary artery (RCA), total occlusion of the proximal RCA was developed and he complained of chest discomfort. At that time, the ECG showed ST segment elevation in monitor lead II & III and his heart rate dropped from 70 beats/min to 20 beats/min. After we immediately administrated nitroglycerin into the RCA, the coronary spasm improved and ST segment elevation returned to normal. After treatment with diltiazem 180mg and isosorbide dinitrate 40mg for 2 days, repeated HUTT was performed. There was no ST segment elevation and he was free of chest pain and syncope.

A case of RVOT obstruction and post-stenotic dilatation of pulmonary artery with RVH derived from congenital subaortic VSD

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We report a case of asymptomatic old age man who has ventricular septal defect (VSD) complicated by obstruction of right ventricular outflow tract (RVOT) with right ventricular hypertrophy (RVH) and overriding aorta which looks like tetralogy of Fallot (TOF).

A 66-year-old man was admitted to our hospital due to back pain after slip-down. He had a diagnosis of VSD in child. However, the patient had not undergone formal cardiologic evaluation until this admission. His medical history included hypertension, and cerebral infarction. Right side weakness was noted, but he had been able to lead an active life, and he reported having had no cardiac symptoms. His exercise tolerance was acceptable for his age. On physical examination, pansystolic murmur grade III throughout the precordium was noted. There were no signs of congestive cardiac failure. Electrocardiography showed RVH. Chest X-ray showed enlarged cardiac silhouette, and prominent left pulmonary arteries. Trans-thoracic echocardiography (TTE) revealed sub-aortic VSD with moderate aortic stenosis (peak velocity = 3.9 m/s). Color Doppler image showed turbulent flow in the subpulmonary area, and continuous wave Doppler showed high velocity (4.8 m/s) systolic flow in the same area, attributed to left-to-right shunt through the VSD. TTE revealed marked RVH and suspected overriding aorta. Doppler examination revealed a mild tricuspid regurgitation (peak velocity = 4.5 m/s, peak transvalvarure pressure gradient = 80.2 mmHg) and pulmonic stenosis. There was an infundibular obstruction. On the cardiac catheterization, infundibular stenosis with post-stenotic dilation of pulmonary artery was noted. The origin of coronary artery was normal, but 80% stenosis at obtuse marginal branch of left circumflex artery was noted. Based on these findings, the option of surgical repair was addressed. However, the patient chose to refuse corrective surgery of this congenital defect.