Symptomatic myocardial bridging in a young soccer player without hypertrophic cardiomyopathy

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Introduction: Myocardial bridging, muscle surrounding the segment of the epicardial coronary artery, is almost always associated with hypertrophic cardiomyopathy and left ventricular hypertrophy. Here, we report a 14-year old boy with presyncope and chest pain during exercise related with myocardial bridging of the middle segment of left anterior descending coronary artery (LAD).

Case: A 14-year-old boy was admitted to our pediatric cardiology department for exertional chest pain and presyncope. The attacks generally lasted up to 45 minutes-1 hour, were associated with dizziness, anxiety and precordial chest pain. Physical examination was normal with a normal body weight and body mass index. Vital signs were normal. Cardiac examination was normal. Initial electrocardiography showed sinus rhythm, normal QRS axis and no evidence of left ventricular hypertrophy. Blood tests did not reveal anemia, electrolyte or lipid abnormalities. On admission, troponin, CK-MB and NT-pro BNP levels were normal. Echocardiography showed normal cardiac and coronary anatomy. Exercise stress test (Bruce protocol) was stopped after 5 minutes due to inverted T wave in inferior and anterior leads (DII, DIII, aVF, V3, V4, V5). Dual source computed tomographic coronary angiography did not reveal any abnormality of coronary arteries. Exercise Tc-99 MIBI myocardial perfusion scanning showed minimal reversible perfusion defect in anterolateral wall consistent with ischemia. Based on these findings, we decided to perform coronary angiography, which revealed a coronary myocardial bridging and systolic compression with a length of 15 mm in the mid segment of the LAD (Figure 1). Patient was restricted from playing football, and calcium channel blocker was prescribed and he was discharged without any problems. After 3-month follow-up, he had no cardiac symptoms.

Conclusion: Myocardial bridging should also be considered in children without associated hypertrophic cardiomyopathy and left ventricular hypertrophy who presents with clinical findings that are consistent with myocardial ischemia.

Figure 1: Cardiac angiography. a. Compression of the mid-left anterior descending artery during systole (arrow). b. Same segment during diastole (arrow).