Congenitally corrected transposition of great arteries detected by coronary computed tomography-angiography

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Introduction: Congenitally corrected transposition of great arteries (CCTGA) is a rare structural heart disease constituting less than 1% of all congenital heart diseases. It is characterized by a unique anatomy of morphologically swapped ventricles and malposition of aortic root and pulmonary trunk[1-3]. Despite the transposition, physiological blood pools are preserved. Patients may not be diagnosed until adulthood, when left-located right ventricle begins to fail due to dealing with systemic blood flow. They may also present with heart rhythm or conduction disorders. The aim is to present a case of CCTGA detected by coronary computed tomography angiography (CCTA).

Case report: 58-year-old woman with suspected coronary artery disease (CAD) was referred to our clinic for a CCTA. Presenting symptoms were occasional unprovoked tachycardia accompanied by atypical chest discomfort and decreased ability to endure physical exertion. Patient mentioned (without in-hand report) that recent echocardiogram was unremarkable. Physical examination and blood tests were done. Among risk factors, arterial hypertension and dyslipidemia were recorded. CCTA was performed and revealed anomalous coronary arteries originating from anteriorly placed aorta where pulmonary trunk was behind aorta and both great arteries running parallel to each other that was consistent with CCTGA. No CAD was found.

Conclusion: CTA is nowadays recommended as the initial test for diagnosing or excluding CAD after clinical assessment. It is also used as a complementary modality to echocardiography in evaluation of congenital heart diseases. In our case, CCTA revealed CCTGA. It is a complex condition that can be overlooked or underestimated due to its initial clinical insignificance. Even though the condition was probably assessed in earlier life, CCTGA should have been followed up regularly because of chance of reduction of cardiac function or disorder of cardiac rhythm.

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