Intercoronary continuity between the left anterior descending and right coronary arteries associated with abnormal origin of the circumflex artery

Anormal sirkumfleks arter çıkışına eşlik eden sol ön inen ve sağ koroner arter arasında koronerlerarası devamlılık

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A 56-year old man presented with atypical chest pain. He had newly diagnosed type II diabetes mellitus, dyslipidemia and smoking. Physical examination and electrocardiogram were within normal limits. Transthoracic echocardiography indicated normal left ventricular function and borderline left ventricular hypertrophy. After a positive treadmill exercise testing he was referred to coronary angiography. Selective left coronary injection showed normal left anterior descending artery (LAD) but the circumflex artery (Cx) could not be visualized. The distal part of right coronary artery (RCA) was visualized from distal LAD (Fig. 1). Then right coronary injection indicated normal RCA, but visualized distal LAD (Fig. 2). An intercoronary continuity was diagnosed between the posterior descending artery (PDA) and the distal portion of LAD. In addition the Cx was selectively catheterized near the ostium of RCA (Fig. 3).

Intercoronary continuity is a rare variant of the coronary circulation. Two types have been described: communication between the Cx and the RCA in the posterior atrioventricular groove, and communication between the LAD and the PDA in the distal atrioventricular groove. In all described cases intercoronary continuity was by means of a single vessel in the epicardial position with a diameter similar to that of the terminal portions of connected arteries. The functional significance of these connections is unclear but one may speculate they have a potential protective role in the myocardium against obstructive coronary lesions.

Our case was interesting due to the existence of dual anomalies in the same patient, intercoronary continuity between PDA and LAD associated with abnormal origin of the Cx.

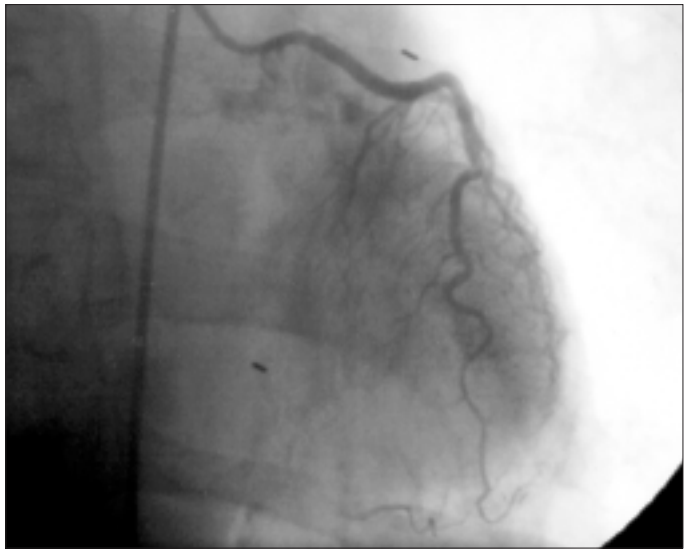

Figure 1. Selective left coronary injection visualizing the distal part of right coronary artery

Figure 2. Selective right coronary injection indicated normal right coronary artery, but visualized distal left descending coronary artery

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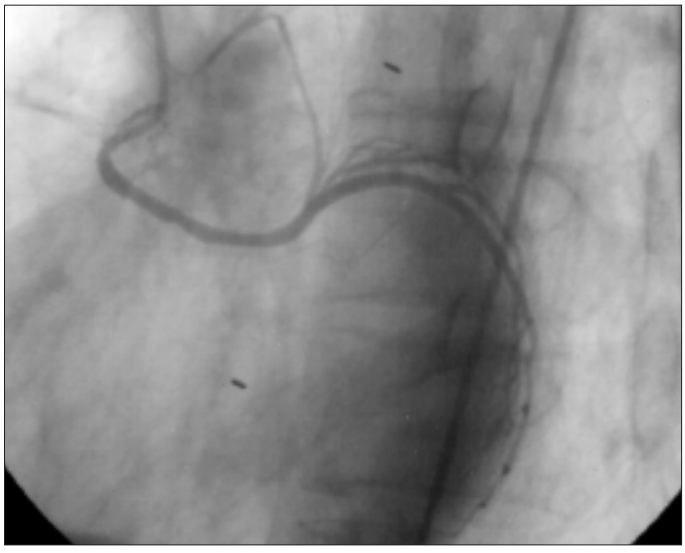
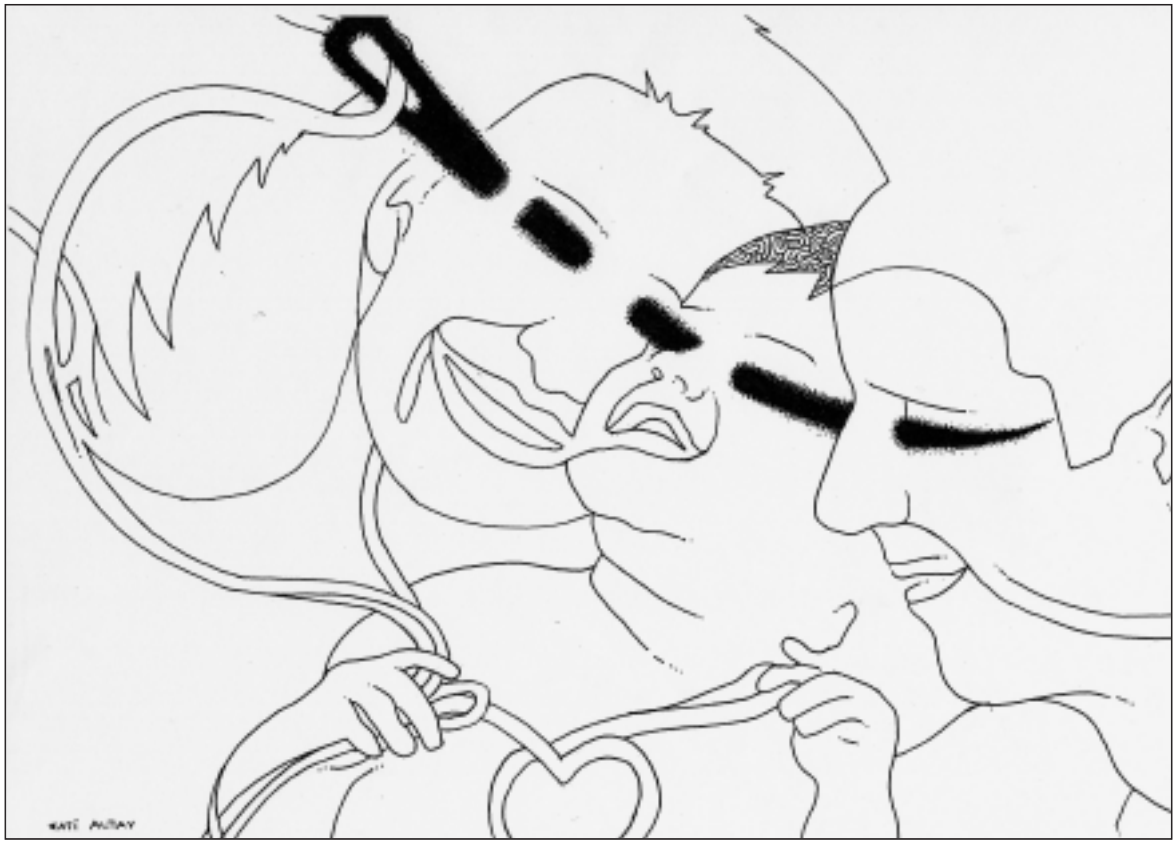


Figure 3. Circumflex artery was selectively catheterized from the right coronary sinus

References

1. Donaldson RF, Isner JM. Intercoronary continuity: an anatomic basis for bi-directional coronary blood flow distinct from coronary collaterals. Am J Cardiol 1984; 53: 351-2.
2. Reig J, Jornet A, Petit M. Direct connection between the coronary arteries in the human heart. Intercoronary arterial continuity. Angiology 1995; 46: 235-42.



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