

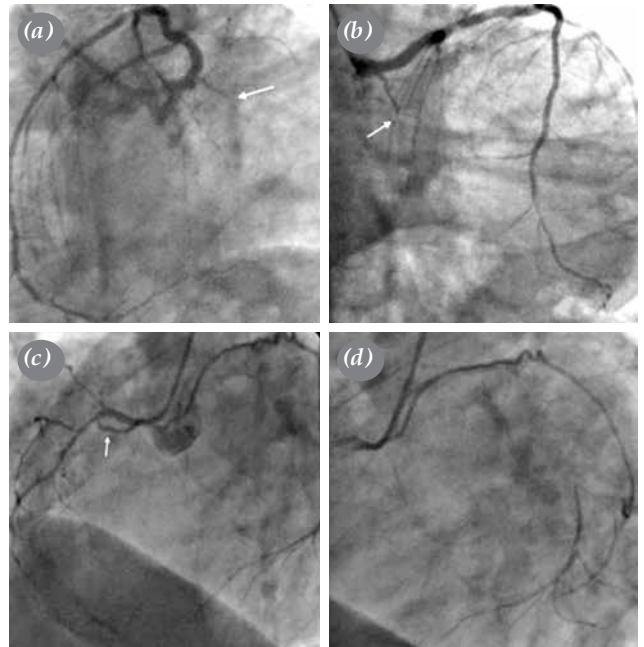
*Interesting Image / İlginç Görüntü***A rare collateral pathway***Nadir bir kollateral dolaşım*Çetin Geçmen , Muzaffer Kahyaoğlu , Akın İzgi 

Department of Cardiology, Kartal Koşuyolu Yüksek İhtisas Training and Research Hospital, İstanbul, Turkey

A 54-year-old male patient was admitted to our cardiology outpatient with stable angina pectoris. He also suffered from type 2 diabetes and hypertension. The stent was implanted to the circumflex artery one year ago. Electrocardiography showed non-specific T-wave changes. Laboratory test results were also within normal limits. We performed exercise stress test and detected 1.5 mm horizontal ST segment depression in the inferior lead. Selective coronary angiography was performed and left coronary angiography showed chronic total occlusion (CTO) of the left circumflex artery (LCx) in the left and right caudal oblique view and critical lesion of distal left anterior descending artery (Figure 1a, b). Right coronary angiography revealed no lesion and also good epicardial collateral to the LCx from the right coronary artery (RCA) sinoatrial nodal branch (Figure 1c, d). The patient was discharged with medical treatment.

Coronary CTO, commonly seen in patients with chronic stable angina, is characterized by the presence of atherosclerotic plaque resulting in complete or near complete occlusion of coronary artery for greater than three-month duration.<sup>[1]</sup> The myocardial territory supplied by CTO tends to form well developed collaterals from a donor artery in the course of time.<sup>[2]</sup> Chronic total occlusion of the LCx has several collateral pathways as diagonal artery (D) to obtuse marginal artery (OM), posterior left ventricular branch (PLV) to atrioventricular circumflex (AVCx), posterior descending artery (PDA) to OM.<sup>[3]</sup> In the largest analysis of collateral circulation anatomy in a population of patients with CTOs reported by McEntegart,<sup>[3]</sup> a total

of 120 collaterals were identified for LCx CTOs and 28 (32.2%) of all LCx CTOs had collaterals from the D to OM branch of the LCx collaterals, while 18 (20.7%) had PLV to AVCx collaterals. Fifteen (17.2%) had



**Figure 1.** (a) Left coronary angiography showing CTO of the LCx (arrow) in the left caudal oblique view. (b) Left coronary angiography showing CTO of the LCx (arrow) in the right caudal oblique view. (c, d) Right coronary angiography showing good epicardial collateral to the LCx from the RCA sinoatrial nodal branch (arrow).

CTO: Chronic total occlusion; LCx: Left circumflex artery; RCA: Right coronary artery.

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**Correspondence:** Çetin Geçmen, MD. Kartal Koşuyolu Yüksek İhtisas Eğitim ve Araştırma Hastanesi, Kardiyoloji Kliniği, 34865 Cevizli, İstanbul, Turkey.  
Tel: +90 216 - 500 15 00 e-mail: koronerr@hotmail.com

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bridging collaterals and 10 (11.5%) had proximal OM branch to more distal OM branch collaterals (auto-collaterals). In addition, eight (9.2%) had PDA to OM collaterals. In this large-scale study, the collateral pathway originating from the sinoatrial nodal branch of the RCA was not observed. Collateral pathway originating from the sinoatrial nodal branch is quite rare. Herein, we report a rare collateral pathway to the LCx from the sinoatrial nodal branch.

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