



## Anomalous Origin of the Left Circumflex Artery — Role of Echocardiography —

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The left circumflex coronary artery (LCX) originating from the right coronary cusp accounts for 27.7% of anomalous coronary anatomic variants.<sup>1</sup> This atypical point of origin generates an LCX that traverses the non-coronary cusp (NCC) and left atrium (LA) interspace. Given that an (generally asymptomatic) anomalously originating LCX (AOLCX) runs immediately posterior to the NCC, the invasive instrumentation required for transcatheter aortic valve implantation (TAVI) or atrial septal occluder (ASO) placement can cause significant trauma to the LCX.<sup>2</sup> To spare patients the risks of nephrotoxicity and radiation exposure associated with coronary computed tomography angiography (CCTA; the optimal AOLCX identification method), the ability to identify the presence of an AOLCX on transthoracic echocardiography (TTE), generally conducted prior to TAVI/ASO placement, would have clinical benefits.

We identified 3 patients with an AOLCX whose coronary vasculature distributions were the same based on TTE. A duct-shaped echocardiographic signal (**Figure**) was visu-

alized between the left ventricle and LA on the apical longitudinal axis (APLAX) view and the apical 4-chamber view (**Figure A,B,D,E,G**). The AOLCX was well visualized on APLAX view (**Figure A,D**). This unique report describes the TTE manifestations of an AOLCX, preoperative diagnosis of which might avert procedure-related LCX trauma without CCTA-associated risks, especially important as TAVI and ASO placement become more common.

### Disclosures

The authors declare no conflicts of interest.

### References

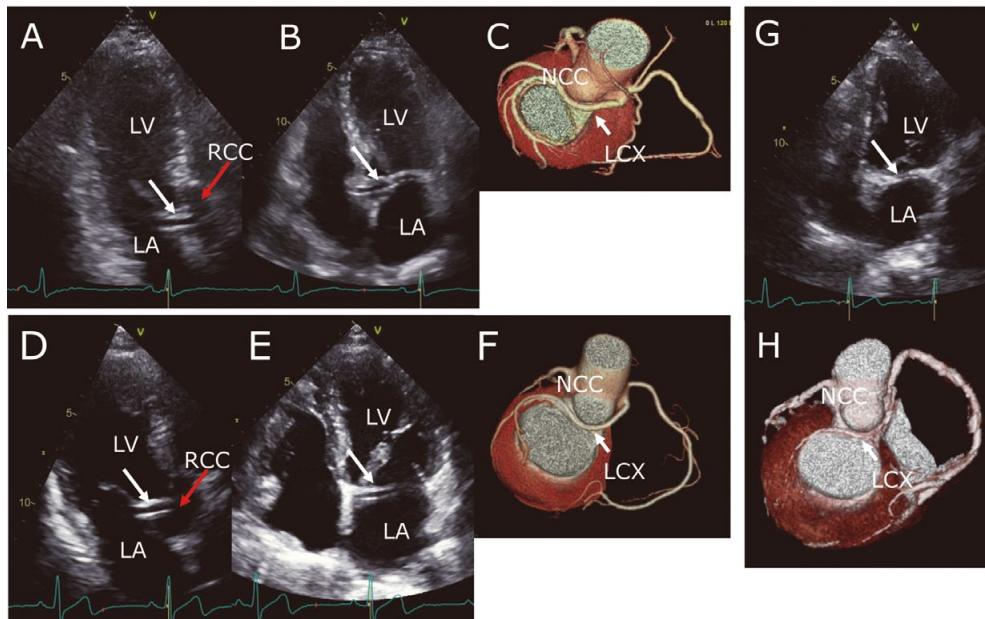
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**Figure.** Transthoracic echocardiography: (**A, D**) apical longitudinal axis and (**B, E, G**) 4-chamber view showing an indistinct duct-shaped signal between the left atrium (LA) and left ventricle (LV) reflecting the anomalously originating left circumflex coronary artery (AOLCX; white arrows). (**C, F, H**) 3-D Coronary computed tomography angiography-based reconstructions show the LCX running between the non-coronary cusp (NCC) and LA. RCC, right coronary cusp. Each combination of images (**A, B; C–F; G, H**) was obtained from the same patient.