A 62-year-old male patient was referred to our center for primary percutaneous coronary intervention (PCI), having collapsed with chest pain. Initial electrocardiogram at a peripheral hospital had shown complete heart block followed by junctional rhythm with ST-segment elevation in leads I and AVL, and ST-segment depression in leads II, III, and AVF. Coronary angiography was performed via the right transradial approach applying a 6-F sheath. Diagnostic right coronary angiogram revealed the presence of a single coronary giving rise to all main epicardial vessels. A severe left circumflex...
coronary artery (LCX) stenosis was identified (Figure 1A, Online Video 1). No coronary artery was shown to originate from the left coronary sinus on unselective contrast injection. We proceeded to PCI with a 5-F Judkins R 4.0 guide catheter. We were initially unable to wire the LCX with our “workhorse” BMW guidewire (Abbott Vascular, Santa Clara, California) that was entering either the left anterior descending coronary artery (LAD) or the right coronary artery (RCA). Subsequently, we stabilized the guide catheter with the BMW wire into the RCA and managed to cross the LCX lesion with a hydrophilic (Asahi Fielder, Abbott Vascular) wire. After pre-dilation of the stenosis with a 2.5 × 12-mm balloon, we delivered a 2.75 × 18-mm drug-eluting stent. Final angiography demonstrated a good result (Figure 1B, Online Video 2). The patient tolerated the procedure well and was discharged in good condition. Two weeks later, we performed computed tomography coronary angiography in order to determine the course of the anomalous left coronary artery (LCA) system. This showed the LCX coursing posteriorly to the aorta with a patent LCX stent, and the LAD was found to travel between the aortic root and the right ventricular outflow tract (RVOT). An anomalous origin of the LCA from the right coronary sinus is a rare congenital coronary artery anomaly (0.15% incidence)(1), but it most commonly exists as a long left main stem, not as a trifurcation (2). This specific pattern is not included in the Shirani and Roberts classification (3)
and represents a very unusual form. Transradial approach was feasible in our patient, and to the best of our knowledge, we describe the first successful transradial primary PCI in a rare case of anomalous origination of a coronary artery from the opposite sinus.

REFERENCES

KEY WORDS anomalous coronary artery, primary percutaneous intervention, transradial approach

APPENDIX For the supplemental videos, please see the online version of this article.