A 69-year-old man with medically refractory 3-vessel coronary artery disease underwent sequential, minimally invasive coronary artery bypass grafting of the left internal mammary artery (LIMA) to the left anterior descending artery and first diagonal artery. The surgery was conducted off-pump and was uneventful. A pleural drain was placed on the left side at the end of the surgery.

Postoperatively, the patient developed chest pain, and an ECG demonstrated new T-wave inversions (Figure 1, arrows) in comparison with his previous ECG (Figure 2), indicating myocardial ischemia. A coronary computed tomography angiography (CCTA) was done to assess patency of the LIMA graft. The CCTA demonstrated that the LIMA graft was sucked into one of the side holes of the pleural drain and was thought to be the cause of symptoms (Figures 3 and 4, arrows). A bronchoscope was inserted through the chest tube to visualize LIMA graft as the drain was slowly pulled out. The patient’s symptoms gradually improved, and he was discharged in a few days without any additional complications.

CCTA has rapidly evolved as an important diagnostic modality, and its diagnostic accuracy for bypass graft visualization is almost 100%. Pleural drains, which are placed routinely after cardiac surgery, have been reported to cause external compression of not only the native vessels, but also LIMA and vein grafts. Invasive coronary angiography has been used to confirm mechanical compression in the aforementioned reports. To the best of our knowledge, this is the first case that describes use of CCTA to visualize a LIMA graft that was looped inside the chest tube. There are important lessons to be learned from this. (1) Recurrence of typical chest pain after bypass surgery in a patient with a pleural drain should make one think of mechanical graft compression. (2) Use of CCTA can help assess the exact relationship of the graft and the pleural drain. (3) A bronchoscope may be used to ensure safe removal of the chest tube in such a situation without damage to the graft.

Disclosures
None.

References

Figure 1. ECG during chest pain demonstrating T-wave inversions suggesting myocardial ischemia (arrows).


Suction of the Left Internal Mammary Artery Graft Into a Pleural Drain Visualized by Computerized Tomography
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