A 76-year-old man who had undergone 2-vessel coronary artery bypass graft (CABG) operation 21 years ago was diagnosed with myasthenia gravis and had been under follow-up for the past 3 years. An anterior mediastinal mass was detected with chest x-ray, and he was consulted by a thoracic surgeon for a possible thymoma. Computed tomography (CT) scans revealed that the mass could be an aneurysm originating from saphenous vein graft (SVGA) or from the aorta. The patient was referred to the cardiovascular surgery department.

The results of his physical examination were normal. ECG showed R-wave progression loss in leads V1 through V3 and sinus rhythm. Echocardiography showed mild apical hypokinesis with an ejection fraction of 57%. Although there was nothing evident on chest x-ray 3 years before, a new chest x-ray showed a circular mediastinal mass of 8.7 × 7.5 cm (Figures 1 and 2). Because he had previously had a CABG operation, he was consulted by a cardiologist, and coronary angiography was performed. Angiography showed an occluded left internal mammary artery to the left anterior descending coronary artery graft, and saphenous vein graft to the diagonal artery was not visualized. CT angiography was scheduled.

Previous CT scans were reexamined, and a saphenous vein aneurysm was detected that was also present 3 years earlier. At that time, CT reports depicted the mass as a possible thymoma or an aneurysm originating from the aorta with the dimensions of 2.5 × 2.3 cm, but the differential diagnosis was not made (Figure 3). Hounsfield units also did not allow for discrimination of thymoma from other pathologies. After having new dedicated ECG-triggered CT angiography of both coronary arteries and the mediastinum, it was clear that the mass was an aneurysm originating from saphenous vein graft of diagonal artery, and the left anterior descending coronary artery was suitable for a CABG operation. Dimension of the aneurysm was 8.6 × 7.5 cm, which had showed rapid progression in past 3 years (Figures 4 and 5).

The patient underwent resection of aneurysm, ligation of saphenous vein graft (Figure 6), and aortocoronary bypass to the left anterior descending coronary artery with a saphenous vein graft. The operation and postoperative period were uneventful. The patient received 2 sequences of plasmapheresis for myasthenia gravis and was put on mestinon treatment. The patient was discharged on the eighth postoperative day.

Saphenous vein aneurysms are a rare but fatal complication of CABG. They occur at an estimated rate of <1%.1 The development of SVGAs usually occurs 10 to 20 years after operation.2,3 The symptoms may not be so clear. SVGA is usually diagnosed as a result of suspicion.

SVGAs are usually detected as mediastinal or hilar masses on chest roentgenogram. In case of mediastinal masses with a history of CABG, SVGAs must be kept in mind. CT and magnetic resonance imaging studies are used for differential diagnosis and for excluding other pathologies. Coronary angiography must be obtained if suspicion of SVGAs exists, but it may not give enough information as in this case. More detailed information can be obtained by 3-dimensional CT scans4 or dedicated ECG-triggered CT angiography.

Disclosures

None.

References

Figure 1. Chest x-ray 3 years before.

Figure 2. Chest x-ray before operation.

Figure 3. Thorax CT scan of patient showing SVGA 3 years before. CT, computed tomography; SVGA, saphenous vein graft aneurysm.

Figure 4. Dedicated ECG-triggered CT angiography showing SVGA at admission. CT, computed tomography; SVGA, saphenous vein graft aneurysm.
Figure 5. Lateral view of SVGA. SVGA, saphenous vein graft aneurysm.

Figure 6. A, Distal portion of saphenous vein graft to diagonal artery. B, Proximal anastomosis and radiopaque marker of saphenous vein graft. C, Saphenous vein graft aneurysm.
Rapid Progression of a Saphenous Vein Graft Aneurysm Followed as a Thymoma
Erkan Iriz, Mustafa Hakan Zor, Gonca Erbas, Irfan Tastepe and Adnan Abaci

Circulation. 2012;126:e108-e110
doi: 10.1161/CIRCULATIONAHA.112.094185
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2012 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the
World Wide Web at:
http://circ.ahajournals.org/content/126/8/e108

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published
in Circulation can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial
Office. Once the online version of the published article for which permission is being requested is located,
click Request Permissions in the middle column of the Web page under Services. Further information about
this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation is online at:
http://circ.ahajournals.org//subscriptions/