A 76-year-old man was admitted to the intensive care unit with unstable angina pectoris of Braunwald class IIIB. He was known to have hypertension, which was poorly controlled with medication. Physical examination revealed a pulsating mass in the lower abdomen that was suggestive of an aortic aneurysm. An echocardiographic study with a small, hand-held ultrasound device (SonoHeart, SonoSite Inc) showed an abdominal aortic aneurysm containing thrombotic material (Figure 1). His troponin T level was elevated, and he underwent coronary arteriography, which showed a high-grade stenosis at the bifurcation of left anterior descending artery and the first diagonal branch. The lesion was dilated during the same session, with direct stenting of both branches.

After the intracoronary intervention, intravascular ultrasound imaging of the abdominal aneurysm was performed (motorized pullback with speed of 0.5 mm/s) with a 9 MHz, mechanically rotated imaging transducer (Figure 2). The transducer was rotating in a 9 French, close-end, rounded-tip catheter that was 110 cm in length (Ultra ICE, Boston Scientific).

A multislice spiral computed tomography scan (Somatom plus 4 VolumeZoom, Siemens AG) was also performed (Figure 3). By simultaneous acquisition of four 1-mm slices at a pitch of 5 (5 mm Z-translation per 0.5-s gantry rotation), images of the entire area of the abdominal aorta were acquired within 32 seconds. Contrast between the vessel lumen and surrounding tissues was realized by an intravenous injection of 100 mL of Iomeprol (Bracco-Byk Gulden) at an injection rate of 2.5 mL/s. From the data set, a large stack of axial slices was reconstructed and processed with dedicated volume-rendering software (VoxelView, Vital Images) on a separate graphic workstation.

One month later, the patient underwent surgical resection of the aneurysm. He was asymptomatic at the 6-month follow-up.
Figure 3. Multislice, computed tomography, 3D volume-rendered images from an anterior (A) and a right lateral (B) perspective in which the large thrombus (TR) is visualized between the contrast-enhanced aortic lumen and the calcifications in the outer wall of the aneurysm. Involvement of the renal arteries (arrows) was excluded (A, C). The thrombus had mainly developed at the anterior side (D), and the diameters measured at the site of maximum dilatation were 64 x 62 mm. A longitudinal cross-section of the aneurysm, which has been curved along the trajectory of the abdominal aorta and proximal right common iliac artery, is shown in E. ANT indicates anterior; POST, posterior; R, right; and L, left.
Aneurysm of the Abdominal Aorta

Circulation. 2001;104:e10-e11
doi: 10.1161/hc2801.093433
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2001 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/104/3/e10

Data Supplement (unedited) at:
http://circ.ahajournals.org/content/suppl/2001/07/02/104.3.e10.DC1

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/