

## Leriche Syndrome Visualized by 3-Dimensional Multislice Computed Tomography Angiography

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A 39-year-old man presented to our hospital with severe thigh, hip, and buttock claudication and diminished femoral pulses. Color Doppler ultrasonography revealed absence of flow in both common iliac arteries, suggesting the diagnosis of Leriche syndrome. Preoperative computed tomography (CT) angiography was subsequently performed using a multislice spiral CT scanner (Somatom Plus 4 Volume Zoom, Siemens) to confirm the diagnosis and provide a vascular “road map” for the surgical procedure.

After intravenous injection of 130 mL of nonionic iodinated contrast material (Iomeron 400, Bracco), CT scanning of the abdominal aorta was performed using a high-resolution protocol (slice thickness, 3.0 mm; reconstruction interval, 1.0 mm). After acquisition, CT images were transferred to a workstation and 3-dimensional (3D) volume rendering

images, as well as multiplanar reconstructions, were generated using a dedicated software package (Vitrea 2, Vital Images).

The 3D volume rendering reconstructions (Figure 1A and Movie I) provided a selective visualization of the arterial circulation, showing complete obstruction of the sub-renal aorta and common iliac arteries, with superficial collateral circles and recanalization of common femoral arteries. The multiplanar reconstruction along the sagittal plane (Figure 1B) clearly depicted the location and extent of a thrombus within the abdominal aorta.

The patient subsequently underwent bypass surgery and CT angiography was performed for follow-up evaluation. The 3D volume rendering reconstructions (Figure 2 and Movie II) demonstrated complete resolution of the aortic obstruction.

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**Movies I and II are available in the online-only Data Supplement at <http://www.circulationaha.org>.**

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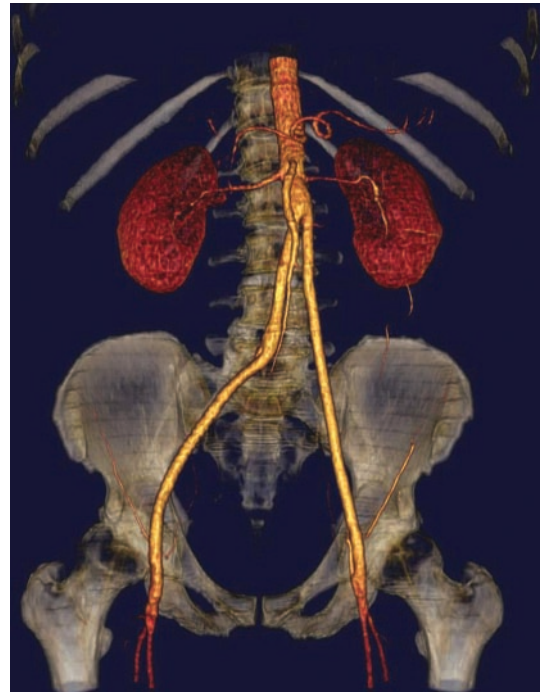
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**Figure 1.** A, Preoperative multislice spiral CT angiography with 3D volume rendering reconstruction. After careful manual segmentation, the arterial vessels are displayed selectively with the osseous structures seen in transparency. CT images demonstrate complete obstruction of the sub-renal aorta and common iliac arteries with excellent detail. There is reconstitution of the common femoral arteries bilaterally via circumflex iliac (arrows) and inferior epigastric arteries (arrowheads). B, The multiplanar reconstruction along the sagittal plane clearly shows the location and extent of a thrombus (arrow) within the abdominal aorta.



**Figure 2.** Postoperative multislice spiral CT angiography with 3D volume rendering reconstruction. The 3D image shows complete resolution of the aortic obstruction.

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