Rendu-Osler-Weber Disease
Transthoracic Doppler Ultrasonographic Findings

Hajime Kataoka, MD; Osamu Matsuno, MD

A 75-year-old man was admitted to the hospital because of transient unconsciousness and dysarthria. Brain CT and MRI demonstrated a recent cerebellar infarction. Physical examination revealed a continuous extracardiac murmur maximally auscultated (Levine III) between the inner edge of the right scapula and the upper thoracic vertebrae. Color Doppler thoracic ultrasonography recorded at this point disclosed abnormal blood flow signals, ie, red (tubular configuration; Figure 1A), mosaic (circular; Figure 1B), and blue (tubular; Figure 1C) signals. Pulsed-Doppler ultrasonographic recordings obtained from the midportion of each signal demonstrated flows toward the transducer (Figure 2A), bidirectional (Figure 2B), and away from the transducer (Figure 2C) on the right upper part of the patient’s back. 3D contrast-enhanced MR angiography (Figure 3) confirmed anomalous vessels, indicated by the color Doppler ultrasonographic findings; ie, a feeding artery (arrows) originating from the right pulmonary artery, arteriovenous fistula (asterisk), and draining vein (arrowheads) coursing into the left atrium. Multiple telangiectasias1 were observed on the gastric endoscopy as cherry-red hillocks (Figure 4).

Reference

Figure 1. A through C, Color Doppler thoracic ultrasonograms in different planes showing most distinct signals obtained from each anomalous vessel.

From the Division of Internal Medicine, Nishida Hospital, Oita, Japan.

Correspondence to Hajime Kataoka, MD, Division of Internal Medicine, Nishida Hospital, 3-3-24 Ohite-machi, Saiki-City, Oita 876-0831, Japan.

The editor of Images in Cardiovascular Medicine is Hugh A. McAllister, Jr, MD, Chief, Department of Pathology, St Luke’s Episcopal Hospital and Texas Heart Institute, and Clinical Professor of Pathology, University of Texas Medical School and Baylor College of Medicine.

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Figure 2. A through C, Corresponding pulsed-Doppler ultrasonograms for each signal presented in Figure 1A to 1C.
Figure 3. 3D contrast-enhanced MR angiography. LA indicates left atrium; PA, pulmonary artery; arrows, feeding artery originating from right pulmonary artery; arrowheads, draining vein coursing into left atrium; and *, arteriovenous fistula.

Figure 4. Endoscopic findings from stomach.
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