A 56-year-old woman presented with chest discomfort and underwent coronary angiography via a transradial route. Left brachial artery stenosis was suspected because of difficulty in passing with a 0.035-inch guide wire. Upper-extremity angiography showed presence of multiple stenoses and aneurysmal dilatations in her brachial artery (Figure 1). Subsequent to catheterization, the patient received duplex scanning using Aplio SSA-700A (Toshiba, Tokyo, Japan) using the advanced dynamic flow mode. This mode is associated with high resolution, wide dynamic range, and high frame rates and is capable of producing a superior angiograph-like vascular image. Duplex scanning showed serial stenoses alternating with aneurysmal dilatations over a length of approximately 10 cm in her bilateral brachial arteries, which is a typical “string of beads” appearance of fibromuscular dysplasia (FMD) (Figure 2).

FMD usually affects the renal and carotid arteries, and brachial artery involvement is very rare. To our knowledge, there have been only 4 cases of FMD involving bilateral brachial arteries reported thus far in the literature. Pathologically, 3 main types of FMD have been identified, which include intimal fibroplasia, medial FMD, and periarterial fibroplasia. Among these, medial FMD is the most common, accounting for 70% to 95% of all fibromuscular vascular lesions. As shown in Figure 2, arterial narrowing within the “string of beads” segment is caused by protrusion of the dysplastic arterial media, whereas aneurysmal dilatation results from deficit of the arterial media. Although FMD is a histological diagnosis, its diagnosis is usually made by angiography with a high degree of accuracy on the basis of the “string of beads” appearance. Ultrasound examination with advanced dynamic flow mode produces superior angiograph-like images and appears to be useful for noninvasive diagnosis of FMD.

Disclosures
None.

References

From the Department of Medicine (Cardiology) (T.Y., K.A., T.O., Y.T., S.T.) and the Laboratory of Clinical Physiology (Y.K.), National Cardiovascular Center, Osaka, Japan.

Correspondence to Satoshi Takeshita, MD, FACC, Department of Medicine (Cardiology), National Cardiovascular Center, 5–7–1 Fujishiro-dai, Suita, Osaka 565–8565, Japan. E-mail stake@muse.ocn.ne.jp

(Circulation. 2008;117:2542-2543.)

© 2008 American Heart Association, Inc.

Circulation is available at http://circ.ahajournals.org

DOI: 10.1161/CIRCULATIONAHA.107.747089

2542
Figure 2. B-mode (left) and advanced dynamic flow mode (right) images demonstrating segmental stenoses and dilatations of the brachial artery, which shows the typical "string of beads" appearance of fibromuscular dysplasia.
"String of Beads" Appearance of Bilateral Brachial Artery in Fibromuscular Dysplasia
Tsuyoshi Yoshimuta, Koichi Akutsu, Toshiya Okajima, Yuichi Tamori, Yoshinori Kubota and Satoshi Takeshita

Circulation. 2008;117:2542-2543
doi: 10.1161/CIRCULATIONAHA.107.747089
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2008 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/117/19/2542

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/