Late Sequelae of Traumatic Aortic Rupture

James W. Tam, MD; Roy G. Masters, MD; Kwan L. Chan, MD

A 57-year-old man had a car accident resulting in multiple organ trauma, including severe head injury and a tear of his aortic arch. The aortic tear was repaired with a patch. A follow-up transesophageal echocardiogram (TEE) with a multiplane probe demonstrated a localized bulge at the site of the previous repair, indicating the development of a false aneurysm (FA) with a distinct flap (arrow) separating the true lumen (TL) from the false lumen (Fig 1). The schematic diagram (Fig 2) illustrates the orientation of the imaging plane. The corresponding computerized tomogram is illustrated in Fig 3.

In view of the localized nature of the false aneurysm and the presence of severe neurological impairment, the patient was managed medically with close follow-up. Repeat TEE at 3 and 6 months showed no progression of the false aneurysm. However, a routine TEE at 10 months showed that the aortic false aneurysm had ruptured (arrow) and assumed a dumbbell shape, with thrombus (Th) lining much of its wall (Fig 4). The schematic and the corresponding computerized tomogram with three-dimensional reconstruction are illustrated in Figs 5 and 6, respectively.

Surgery was performed through a median sternotomy incision with cardiopulmonary bypass and circulatory arrest. A 7-cm mass consisting of fresh and old thrombus was found under the aortic arch. A 2×2-cm defect at the inferior surface of the aortic arch was repaired with a Dacron patch. The patient made an uneventful recovery.

Figure 1.

Figure 2.

Figure 3.

Figure 4.

From the University of Ottawa Heart Institute, Ottawa, Ontario, Canada.

Correspondence to James W. Tam, MD, University of Ottawa Heart Institute, 1053 Carling Ave, Room H-210, Ottawa, Ontario, Canada K1Y 4E9.

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.

Circulation encourages readers to submit cardiovascular images to Dr Hugh A. McAllister, Jr, St Luke’s Episcopal Hospital and Texas Heart Institute, 6720 Bertner Ave, MC1-267, Houston, TX 77030.


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