

CLINICAL PICTURE

# Brachial artery mycotic aneurysm and splenic infarction associated with infective endocarditis

A 40-year-old Taiwanese man presented with a 4-month history of intermittent fever and progressive dyspnoea on exertion. Four years previously, he had undergone surgical repair of a ruptured aneurysm of the sinus of Valsalva at Taichung Veterans General Hospital. The patient visited a local clinic with

his current symptoms and was admitted for observation. Two-dimensional echocardiography revealed aortic regurgitation (AR) and mitral regurgitation (MR) in association with a prolapsed vegetation; in addition, blood culture was positive for *Streptococcus viridans*. He was referred to Taichung Veterans

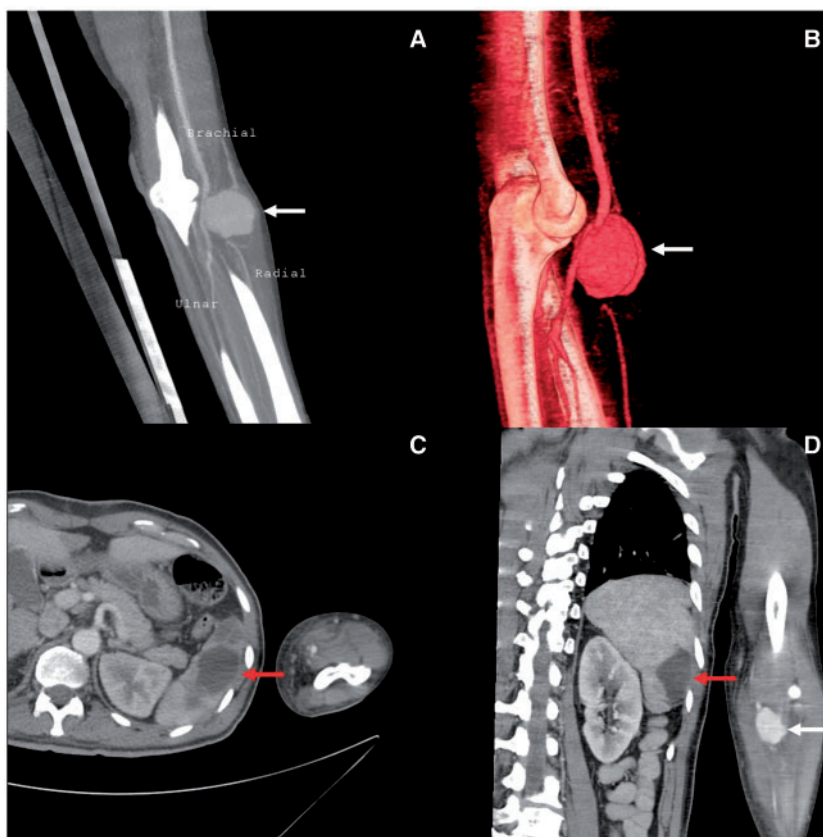


Figure 1. Reconstructed contrast-enhanced MDCT images revealed a distal brachial artery MA (white arrows in A and B). Axial and coronal views (C and D) on contrast-enhanced MDCT revealed a distal brachial artery MA (white arrow) and multiple splenic infarctions (red arrows).

General Hospital with the diagnosis of infective endocarditis associated with AR and MR. Double valve replacement was performed and antibiotics were initiated. However, on the 14th post-operative day, the patient developed left flank pain, with a progressive protruding pulsatile lesion evident in the left cubital region. Contrast-enhanced multiple detector computed tomography (MDCT) revealed a distal brachial artery mycotic aneurysm (MA) and multiple splenic infarctions (Figure 1). Therefore, resection of the MA and reconstruction of the brachial artery using the great saphenous vein were performed. In addition, a complete course of antibiotics was initiated.

MA develops by several mechanisms, including dispersion of emboli from the infective endocardial vegetation, infection of a pre-existing aneurysm, direct or lymphatic contiguous spread of infection from a local or purulent focus and direct bacterial inoculation secondary to trauma. MA of the upper extremities occurs in ~10% of all cases. The brachial artery is the most commonly affected site with an incidence of 3–7%. Brachial artery MA is most frequently associated with intravenous drug abuse, prosthetic valve endocarditis and vascular trauma, including invasive catheterization procedures.<sup>1–4</sup> Splenic infarction results from embolic occlusion of one or more branches of the splenic artery. It occurs in 20–47% of left-sided infective endocarditis because of the lack of collateral circulation between the branches of the splenic artery and sluggish blood flow within the red pulp of the spleen. Splenic infarction is well defined, and on MDCT, it is observed as a peripheral wedge-shaped low-density defect with the apex pointing towards the splenic hilum.<sup>5,6</sup> Here, we report a rare case of concomitant brachial artery MA and multiple splenic infarctions that occurred after double valve replacement for infective endocarditis associated with AR and MR.

Management of a brachial artery MA includes surgical intervention (debridement of all necrotic and infected tissue and ligation or resection of the affected segment with reconstruction), endovascular stent grafting and complete course of antibiotics prescribed according to the blood and tissue culture results.<sup>1,4</sup> The most common pathogens are *Staphylococcus* (24.2%) and *Streptococcus* species (10%) in cases of MA.<sup>1,3</sup>

Photographs and text from: C.-H. Lin, Department of Emergency Medicine, Changhua Christian Hospital, Changhua, Taiwan; H.-W. Tsai, Cardiovascular Center, Taichung Veterans General Hospital, Taichung, Taiwan and Department of

Nursing, Min-Hwei College of Health Care Management, Tainan, Taiwan; J.-I. Hwang, Department of Radiology, Taichung Veterans General Hospital, Taichung, Taiwan, School of Medicine and School of Medical Imaging and Radiological Sciences, Chung Shan Medical University, Taichung, Taiwan; Y.-T. Tsan, Department of Emergency Medicine and Department of Medical Research, Center for Translation Medicine, Taichung Veterans General Hospital, Taichung, Taiwan and School of Medicine, Chung Shan Medical University, Taichung, Taiwan; S.-Y. Hu, Department of Emergency Medicine and Department of Medical Research, Center for Translation Medicine, Taichung Veterans General Hospital, Taichung, Taiwan, School of Medicine and Institute of Medicine, Chung Shan Medical University, Taichung, Taiwan and Department of Nursing, College of Health, National Taichung University of Science and Technology, Taichung, Taiwan. email: song9168@pie.com.tw

## Acknowledgements

The authors thank Enago ([www.enago.tw/](http://www.enago.tw/)) for the English language review.

Conflict of interest: None declared.

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