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A rare case of concomitant aortic regurgitation and coronary ostial stenosis due to cardiovascular syphilis

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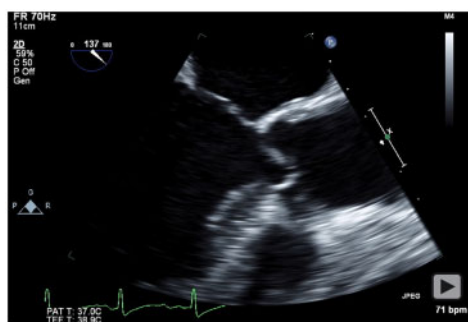
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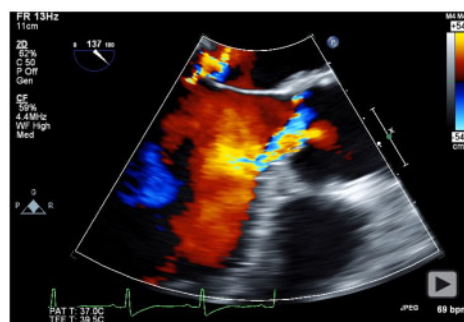
A 62-year-old man was admitted to our hospital with worsening heart failure. Three months prior to this hospitalization, he had been admitted to another local hospital with *de novo* heart failure. Transthoracic echocardiography showed severe aortic regurgitation and reduced left ventricular ejection fraction with severe hypokinesis of the inferior wall. Invasive coronary angiography demonstrated the bilateral coronary artery ostial stenosis. Although a readmission was scheduled so that he could undergo an elective surgical procedure after his heart failure was medically well-controlled, his condition worsened again due to medication non-adherence and his inability to follow-up with a healthcare professional.

Transoesophageal echocardiography showed aortic wall thickening and shortening of the leaflet of the left coronary cusp (Panel A;

Video 1) with severe aortic regurgitation (Panel B; Video 2). Enhanced computed tomography revealed a notably thickened aortic wall (Panel C) and stenosed bilateral coronary ostia owing to compression caused by the thickened aortic wall (Panel D: right coronary artery; Panel E: left coronary artery), suggesting aortitis. Cardiovascular syphilis was highly suspected based upon a positive serological test for syphilis and the absence of clinical symptoms frequently found in the other types of aortitis including Takayasu's aortitis, giant cell arteritis, and Behçet's disease. The Bentall procedure using a biological prosthesis and coronary artery bypass grafting was performed. Macroscopic findings revealed that the aortic wall was notably thickened (Panel F). Histopathological findings of the resected aortic wall revealed markedly thickened adventitia on Elastica van Gieson staining (Panel G) and multifocal lymphocytic infiltration around the vasa



Video 1 Mid-oesophageal long-axis view.



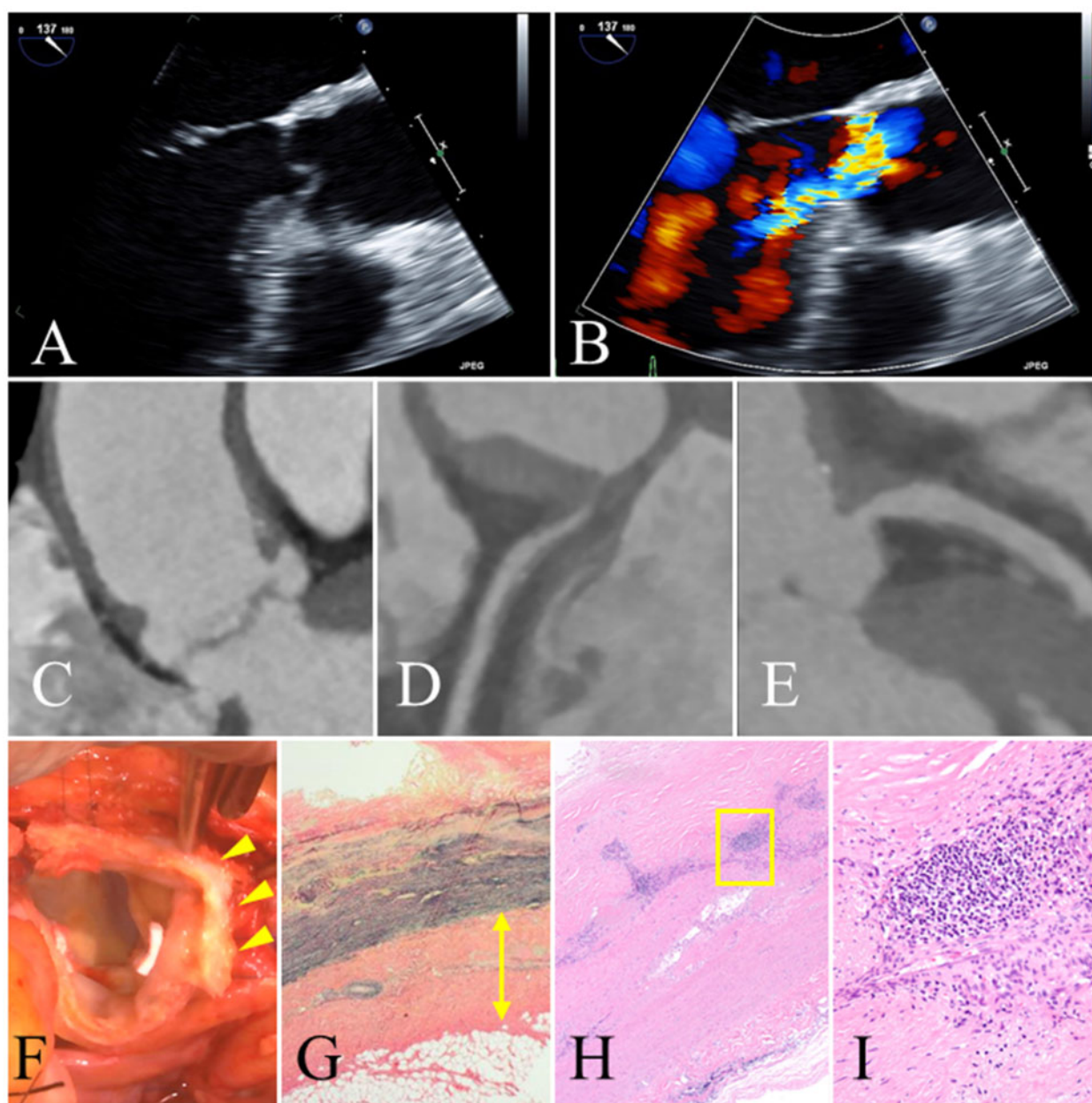
Video 2 Mid-oesophageal long-axis view (colour doppler).

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vasorum on haematoxylin and eosin staining (Panel H and I). These typical pathological findings confirmed the diagnosis of cardiovascular syphilis.

The current resurgence in syphilis may imply that cardiovascular syphilis will be encountered by the clinicians more frequently. In case of aortic regurgitation with concomitant coronary ostial stenosis due to a thickened aortic wall, the possibility of cardiovascular syphilis should be considered.

Consent: The authors confirm that written consent for submission and publication of this case report including images and associated text has been obtained from the patient in line with COPE guidance.

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