

due to plaque shift or stent protrusion were unnecessary in all patients. At follow up, binary stenosis was 25%, angiographic TLR 12.5% and total MACE 6.9%. Directional atherectomy before stent placement therefore extensively facilitates the interventional treatment of ostial LAD or LCX bifurcational lesions and helps to prevent complex stenting procedures, including their considerable side effects, potential risks and notable rate of recurrent stenosis, even in the drug-eluting stent era. The effectiveness, feasibility and safety of directional atherectomy before stent placement for ostial LAD or LCX bifurcational lesions is encouraging and we hope that it will act as an impetus to further investigation.

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## IMAGES IN CARDIOLOGY

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### Multimodality in imaging calcific constrictive pericarditis

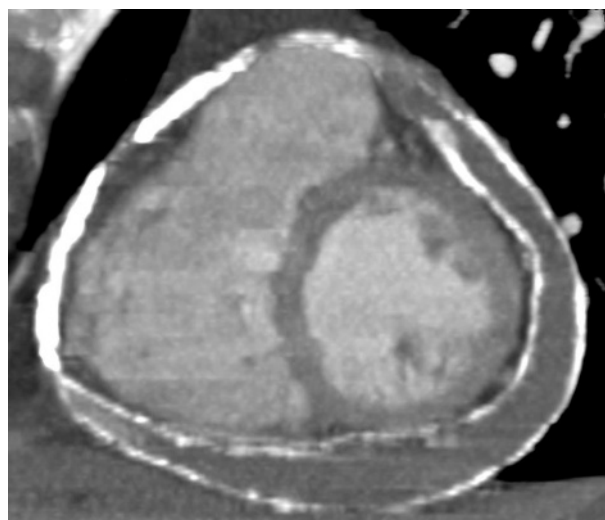
**A** 50-year-old woman presented with a six-month history of progressive dyspnoea and signs of right heart failure. Armoured heart was suspected by clinical examination, chest x-ray and two-dimensional echocardiography.

Tissue Doppler imaging (TDI) revealed an E'-velocity above the cut-off value (8 cm/s) indicating cardiac constriction.

ECG-synchronised contrast enhanced multislice computed tomography (MSCT) demonstrated severe calcifications expanding over nearly the entire heart in an inhomogeneous pattern. An inner and an outer shell representing epicardium and pericardium were differentiated. Encapsulated pericardial effusion was located above extended parts of the left and right ventricle including the atrioventricular groove (see panel).

Haemodynamics demonstrated elevated end-diastolic filling pressures and a dip-and-plateau phenomenon supporting the suspected diagnosis. The patient underwent pericardectomy which confirmed "pericarditis constrictiva calcarea".

Modern cardiac imaging techniques are helpful to differentiate constrictive from restrictive cardiac disease. MSCT demonstrated a large pericardial effusion whereas TDI showed an increased velocity of the mitral annulus. We propose the large pericardial effusion as a possible pathophysiologic mechanism responsible for the late onset of symptoms despite extensive calcification.



Multislice computed tomography (MSCT) based maximum intensity projection demonstrating the inhomogeneous pattern of epi- and pericardial calcification encapsulating a large pericardial effusion.

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