Case Report: A Deadly Crossing- Time to Burn the Bridge

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Abstract

Background:
Myocardial bridges are congenital anomalies. When a segment of an epicardial artery courses intramyocardially, the muscle overlying it forms the "myocardial bridge". This case highlights the important of multi-modality imaging in diagnosing and planning treatment for patients with myocardial bridges.
Case Summary:
33-year-old previously healthy male, with no significant family history, was admitted after an out-of-hospital VF arrest that occurred whilst running. The patient recalls light-headedness immediately before collapsing. ROSC was achieved after 1 shock with subsequent normal GCS. Initial ECG (figure 1) showed benign early repolarization in V1-4. Coronary angiography revealed myocardial bridging affecting a 2cm portion of the left anterior descending artery, with atherosclerotic plaque proximal to the bridge.
Resting echocardiogram and non-perfusion CMR were normal. However, exercise TTE demonstrated marked LAD territory hypokinesis and apical ballooning Figures 2 and 3) at peak exercise accompanied by ST elevation in V3-V6. After multidisciplinary discussions the patient was offered single-vessel CABG with LIMA to the LAD, but he declined. Fully informed of the risks, he opted instead for medical management and will further consider the need for surgical intervention in the future.
Discussion:
Management of patients with symptomatic bridges remains controversial due to the absence of prospective multi-centre data. First line pharmacological therapy is with beta-blockers +/- calcium channel blockers. Revascularisation by intracoronary stent placement can be done, but complications include in-stent restenosis. Surgical options include bridge myectomy and bypass grafting. There is currently no data confirming which approach leads to the best outcome.

Biography

Debbie Falconer graduated in 2014, studying at the University of Cambridge and University College London. She works at the Royal Free Hospital in London and has an interest in cardiac imaging.

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