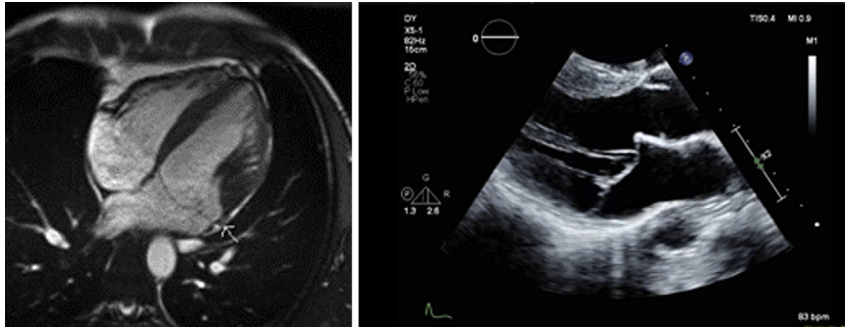




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Case: A normally fit and well 20-year-old male with no previous medical history was found collapsed at home by his family. CPR was commenced after calling emergency services and an ambulance arrived shortly after. The initial rhythm was ventricular fibrillation and he received CPR with external shocks resulting in return of spontaneous circulation after about 17 minutes. He was managed in the intensive care unit and investigations showed evidence of mitral annular disjunction of 9mm with bowing of the posterior mitral valve leaflet on echocardiogram.

A cardiac MRI confirmed the finding and no other cause for the sudden cardiac arrest was found. He recovered well and a subcutaneous implantable cardioverter-defibrillator was inserted prior to discharge.

Discussion: In young patients presenting with cardiac arrest, it can be difficult to identify the underlying cause. Mitral annular disjunction may be a potential risk for arrhythmia and is an area for further research utilising structured imaging guidelines [1].

Reference

- [1] Dejgaard LA, Skjølsvik ET, Lie OH, Ribe M, Stokke MK, Hegbom F, et al. The mitral annulus disjunction arrhythmic syndrome. *J Am Coll Cardiol*. 2018;72(14):1600–9.

<https://doi.org/10.1016/j.hlc.2021.06.193>

191

Case Report: Arrhythmic Mitral Valve Prolapse—The Importance of Risk Stratification

B. Sheahen^{1,*}, D. Brillante²

¹ The Wollongong Hospital, Wollongong, NSW, Australia

² The Illawarra Heart Centre, Wollongong, NSW, Australia

Introduction: Mitral valve prolapse (MVP) is a common condition that is generally regarded as benign, however specific sub-types can lead to serious events. Arrhythmic mitral valve prolapse (AMVP) is an important sub-type for clinicians to screen as it is a significant cause of sudden cardiac death (SCD) in young adults. AMVP hallmark imaging

features include fibrosis of papillary muscles and inferobasal LV free wall. Cardiac MRI and/or electrophysiological (EP) studies allow for identification of these features and provide a promising non-invasive tool for risk stratification.

Case: We present a 59-year-old female with a diagnosis AMVP. She was diagnosed with MVP aged 18, following her brother's diagnosis in childhood. Recently, she had described occasional palpitations and light-headedness without syncope and no family history of SCD. Regular TTE have detailed the progression to severe mitral regurgitation and LA dilation. With improved TTE technology, we were able to ascertain features of AMVP including hyperdynamic activity in the basal inferolateral walls and a pickelhaube spike of 24cm/s at the inferolateral annulus. This was in conjunction with a frequent PVC burden from 24-hour Holter monitoring. To establish risk stratification and prevention of SCD, she was referred to a cardiac electrophysiologist for cardiac MRI and EP studies.

Discussion: We highlight the importance of identifying potentially serious sub-types of MVP. It is important to screen all MVP patients for the arrhythmic sub-type and, when necessary, refer on for cardiac MRI and EP studies for proper risk stratification and management to prevent SCD.

<https://doi.org/10.1016/j.hlc.2021.06.194>

192

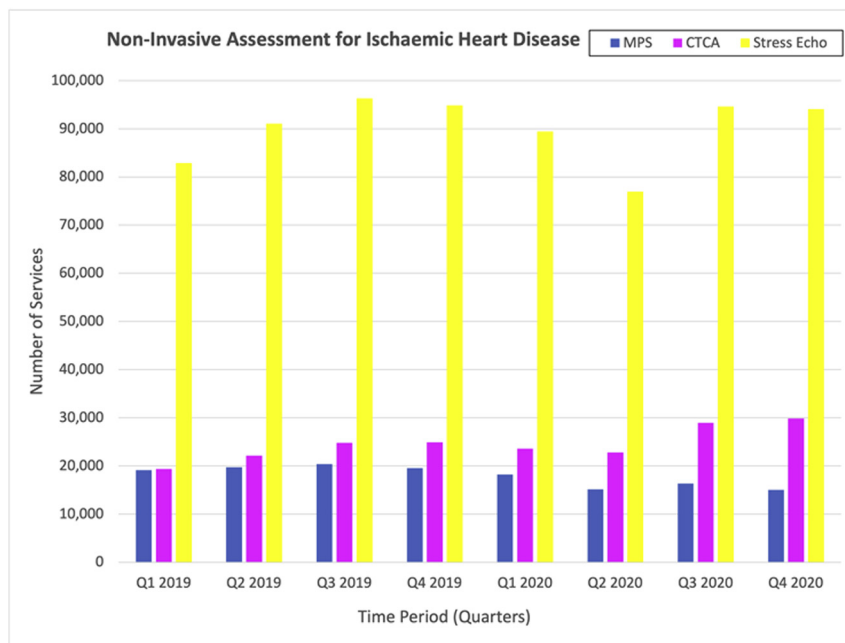
Changes in Non-Invasive Investigations for Ischaemic Heart Disease in Australia During the COVID-19 Pandemic

A. Vlachadis Castles^{1,2,*}, Z. Khattak¹

¹ Northern Health, Melbourne, Vic, Australia

² University of Melbourne, Melbourne, Vic, Australia

Background: During the COVID-19 pandemic there was a significant multifactorial change in clinical practice in cardiology. This study explores changes in the number of non-invasive investigations for ischaemic heart disease (IHD) during this time.



Methods: Publicly available Medicare Australia statistics were accessed and analysed to determine the number of patients undergoing stress echocardiography (SE), myocardial perfusion scanning (MPS) and CT coronary angiography (CTCA) from January 2019 to December 2020 inclusive. Medicare data only includes Medicare funded studies. Information on the indication for investigations is not available, therefore investigations performed for other indications are not excluded.

Results: See figure.

Conclusion: There was a decrease in non-invasive investigations for IHD in quarter 2 of 2020 (by ~15% SE, ~17% MPS, ~4% CTCA), coinciding with the first peak of COVID-19 cases in Australia and implementation of restrictions. SE subsequently returned to baseline. MPS numbers remain below baseline. In quarters 3-4 of 2020, CTCA increased ~20% above pre-pandemic baseline, a trend which preceded the pandemic and is continuing.

<https://doi.org/10.1016/j.hlc.2021.06.195>

193

Characterisation of Myocardial Structure and Function by Cardiac Magnetic Resonance Imaging in Adult Patients With Acute-Phase Myocarditis: A Systematic Review and Meta-analysis

S. Khanna^{1,*}, A. Amarasekera², C. Li¹,
A. Bhat^{1,2}, H. Chen^{1,2}, G. Gan^{1,2}, T. Tan^{1,2,3}

¹ Blacktown Hospital, Blacktown, NSW, Australia

² Western Sydney University, Sydney, NSW, Australia

³ University of New South Wales, Sydney, NSW, Australia

Background: Cardiac magnetic resonance imaging (CMR) plays a key role in the diagnosis of acute myocarditis. The aim of this systematic review was to evaluate and appraise the evidence for the utility of specific CMR sequences and parameters typically used in the diagnostic work-up of acute-phase myocarditis in adults.

Methods: A systematic literature search of medical databases was performed using PRISMA principles to identify all relevant CMR studies on acute-phase myocarditis in adults (2005-2020; English only; PROSPERO registration CRD42020180605). Data for a range of CMR sequences and left ventricular (LV) parameters were extracted and then meta-analysed using a random-effects model for overall effect size.

Results: Available data revealed that myocarditis can be reliably differentiated from controls using native T1, mean T2 and T2 ratio. Parameters of LV structure and function (LV

