Diagnosis is made by echocardiogram; however, this procedure is not widely available, especially in remote hospitals. Various electrocardiogram (ECG) changes, including the Crochetage sign, may give important clues to aid in diagnosis. We report a case of a young woman with a Crochetage sign in her ECG later diagnosed with ostium secundum ASD.

**Case Presentation** An 18-year-old lady had multiple visits to our centre with intermittent palpitations and dull, aching chest discomfort with progressive exertional dyspnoea over the past three years. She did not experience pedal oedema, orthopnoea, or paroxysmal nocturnal dyspnoea. She was initially treated for gastritis and unstable angina. Upon initial questioning, there were no cardiovascular risk factors or significant family history. Clinical examination revealed an ejection systolic murmur over the left sternal edge with fixed splitting of the second heart sound. She was not cyanosed and was clinically euthyroid. Her ECG on presentation showed sinus rhythm and an incomplete right bundle branch block (RBBB) with a notch near the apex of the R wave in inferior leads, also known as the Crochetage sign. There was right atrial enlargement in her chest radiograph. An urgent echocardiogram was performed in a tertiary centre and confirmed the diagnosis of ostium secundum ASD with pulmonary hypertension.

**Discussion** ASD is a common acyanotic congenital heart disease diagnosed during adulthood. Palpitations and reduced effort tolerance are commonly reported symptoms. Clinical findings include a wide, fixed splitting heart sound with an ejection systolic murmur. The Crochetage sign is an independent ECG finding in ASD, especially in large ASD with shunt. Specificity and sensitivity increase further with the presence of RBBB.

**Conclusion** In a center with limited resources, the identification of the Crochetage sign in a patient's ECG is vital to tailor an appropriate investigation for the diagnosis of ASD.

## APCU 18 A SYSTEMATIC REVIEW: BARRIERS HINDERING PATIENTS' PARTICIPATION IN CARDIAC REHABILITATION PROGRAMS

[1]Dona Cyreline Chin, [2]Faridah Mohamad Said, [3]Raynee Kumilau. *[1]Malaysian Ministry of Health Training Institution, Kota Kinabalu, Sabah, Malaysia; [2]Lincoln University College, Kuala Lumpur, Malaysia; [3]University Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia*

10.1136/openhrt-2024-APCU.18

**Introduction** Cardiac rehabilitation (CR) programs are essential for the recovery and secondary prevention of cardiovascular diseases. Despite the proven benefits of such programs, participation and completion rates remain suboptimal. This systematic review aims to identify literatures that systematically analyse and synthesize the factors and barriers influencing patients' participation in cardiac rehabilitation programs.

**Methods** The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) was used. Initial keywords for the precise search were based on the Boolean operators. A comprehensive literature search was conducted across PubMed, ScienceDirect, Cochrane Library, ProQuest, and Scopus databases. Studies on factors and barriers influencing patients' participation in cardiac rehabilitation programs were included in the review. Data extraction and quality assessment were performed independently by two reviewers. The data were assessed for methodological quality using a Critical Appraisal Skills Program (CASP) checklist.

**Results** A total of 10 studies met the inclusion criteria, encompassing a diverse range of populations and settings. Commonly identified factors and barriers include logistical/distance issues, financial issues, time constraints, health status, and transportation issues. Barriers related to the healthcare system, such as inadequate referral processes and insufficient patient education, were also found to be significant.

**Discussion** This review focuses on the barriers influencing patient participation in CR programs regardless of the phase. As the selected studies cover both developing and developed nations, the results of this current study can be generalized across various countries. The most prominent CR barriers are related to logistical, financial, and psychosocial factors.

**Conclusions** Multiple factors and barriers hinder patients' participation in cardiac rehabilitation programs. Addressing these barriers through targeted interventions is vital to enhance patients' engagement and improve the efficacy of cardiac rehabilitation programs. Future research should focus on developing and evaluating strategies to overcome these obstacles.

## APCU 19 COMBINATION OF MECHANICAL TR WITH ESRF

[1]JT Wu, [1]CK Wong, [2,3,4]O Mohd Khairi, [2]MY Nor Mardiah, [1]J Muhammad Izzad, [1]R Ahmad Wazi, [2]Haniff WI WY. *[1]Cardiology Unit Medical Department, HSNZ; [2]Cardiology Department, Hospital Pakar Universiti Sains Malaysia; [3]Cardiology Department, Hospital Sultanah Bahiyah; [4]School of Medical Sciences, Universiti Sains Malaysia, Malaysia*

10.1136/openhrt-2024-APCU.19

**Introduction** Precautions for implanting cardiac implantable electronic devices (CIED) into patients with end-stage kidney disease (ESKD) are more prevalent nowadays. However, concerns about haemodialysis in patients with CIED are rare.

**Case Presentation** A 45-year-old woman with underlying type 2 diabetes mellitus hypertension. She was diagnosed with a complete heart block, which required a permanent pacemaker in 2007, and underwent a box change in 2017. She was further complicated with ESKD, requiring regular peritoneal dialysis since 2019. Unfortunately, she had to convert to haemodialysis in May 2024 due to recurrent peritonitis. The nephrology team referred us as the patient had been oxygen-dependent since starting haemodialysis through internal jugular catheter insertion. Upon review, she had right ventricular failure: oedematous over her lower extremities and had sacral oedema and ascites; a chest drain was inserted for persistent pleural effusion. A loud systolic murmur was heard over the left sternal edge with loud P2. Electrocardiogram shows RV strain pattern. Echocardiography revealed severe tricuspid regurgitation (TR) with a systolic pressure gradient of 80mmHg. 3D echocardiography showed pacemaker wire impinging septal leaflet, causing mechanical TR. Pacemaker interrogation found 99.9% ventricular pacing. Consensus between managing teams and patients was made, and volume control was decided through fluid restriction and haemodialysis to maintain ideal dry weight as guided by a body composition monitor. She eventually developed a hospital-acquired infection, worsening pulmonary hypertension, leading to her demise within 3 months of haemodialysis.

**Discussion** Patients with ESKD have shorter lives compared to the healthy population. A study found higher mortality in the first 5 months for those with peritoneal dialysis switching over to haemodialysis. Our patient developed severe TR and right ventricular failure after starting with haemodialysis