**Objective** The study aims to assess the prevalence of ID in STEMI patients and its association with clinical severity and atherosclerotic plaque burden.
**Material and Method** This is a single-centre cross sectional study conducted on patients diagnosed with STEMI between April and May 2024. All the required information including comorbidities, transferrin saturation ratio and ferritin level were collected from electronic medical record. Clinical severity scores were calculated using TIMI and GRACE score. Atherosclerotic plaque burden was calculated using Gensini score.
**Results** The study included 37 patients and showed ID was prevalent in 78.4% of the study population (n=29). With regards to baseline comorbidities, only chronic kidney disease was found to be significantly different between ID and non ID patients (p=0.02). Chi-square test of clinical severity revealed no significant difference between both groups, TIMI score ID = 4.5 ± 2.7, non-ID = 4.6 ± 3.3, p=0.90 ; and GRACE score ID = 159.5 ± 43.5, non-ID = 172.9 ± 47.9, p=0.33. Additionally, linear regression analysis found no association between iron status and Gensini score (p=1.00).
**Discussion** The study findings suggest that while ID is common among STEMI patients, it may not significantly impact clinical severity as measured by TIMI, GRACE and Gensini score. However, ID is still important to be managed in STEMI patients as literatures have proven that ID carry poor prognosis in STEMI population. The contrast findings could be due to small sample size and not consider other subtypes of ACS.
**Conclusion** ID status does not appear to be associated with clinical severity in STEMI patients. Further researches with larger sample size and more robust methodology are required to further understand the link.

## APCU 04 ELECTROCONVULSIVE THERAPY-INDUCED GENERALIZED T - WAVE INVERSION

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**Introduction** Electroconvulsive therapy (ECT) is a well-established treatment for psychiatric conditions. Although effective, ECT can lead to various cardiovascular effects, such as heart rate fluctuations, blood pressure changes, and electrocardiographic (ECG) abnormalities. One notable ECG abnormality is T wave inversion (TWI), which may signal myocardial ischemia.
**Case Presentation** We present a case of a 45 year old male with treatment-resistant schizophrenia who developed new generalized T-wave inversion on ECG prior to his third monthly ECT session, despite having a previously normal baseline ECG. He exhibited no symptoms of angina or heart failure. Serial troponin and NT-proBNP levels were normal, and echocardiography revealed normal result. His cardiovascular risk factors included hypertension, active smoking, and a strong family history of ischemic heart disease. An inpatient coronary angiogram was performed revealing normal epicardial coronaries. The lack of clinical, biochemical, and imaging evidence of cardiac pathology led to the diagnosis of ECT-induced generalized T-wave inversion. The patient and psychiatry team were reassured and he was able to continue further ECT sessions without any complications.
**Discussion** This case highlights the importance of comprehensive cardiac evaluation in patients with unexpected ECG changes during ECT and underscores the need for awareness of ECT-induced cardiac manifestations among clinicians. ECT induces generalized tonic-clonic seizures through brief electrical pulses, leading to autonomic nervous system activation and transient cardiovascular effects. T wave inversion, while sometimes indicative of serious cardiac conditions, can be benign in the context of ECT. Studies suggest that ECG changes, including T wave inversion, are not uncommon during ECT and generally resolve without intervention. However, new onset of acute coronary syndrome or cardiomyopathy has been reported following ECT, emphasizing the need for careful cardiovascular assessment and monitoring, especially in patients with risk factors.
**Conclusion** T wave inversion during ECT is relatively not uncommon and often transient. Rigorous cardiovascular evaluation and monitoring are essential for the safe administration of ECT, particularly in patients with significant cardiovascular risk factors.

## APCU 05 KNOWLEDGE, BELIEFS AND TREATMENT ADHERENCE AMONG PATIENTS WITH HYPERTENSION

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**Introduction** This study aimed to determine the relationships between knowledge, beliefs, and treatment adherence among patients with hypertension. Patients with hypertension do not have adequate knowledge about hypertension and poor perceptions of hypertension and treatment adherence.
**Methodology** This quantitative, descriptive correlation study was conducted in outpatient clinics from January 2018 to March 2018. Self-report data were collected from patients using the instruments of the Hypertension Knowledge-Level Scale (HK-LS), Commonsense Beliefs and Treatment Adherence Questionnaire for Patients with Hypertension (TAQPH) from 356 patients diagnosed with hypertension who were chosen via convenience sampling. The statistical tests that were applied were the Chi-Square test and Logistic Regression.
**Results** Three hundred and ten patients participated in this study, with a response rate of 87.1%. Overall, patients had high knowledge, beliefs, and treatment adherence to hypertension. Sociodemographic data significantly related to knowledge, beliefs, and treatment adherence to hypertension. Meanwhile, no significance was found between beliefs and treatment of adherence to hypertension.
**Discussion** About 45.5% of the patients had poorly defined hypertension, especially regarding systolic and diastolic blood pressure. These terms might have been medical jargon that laypersons could not understand. Those who had higher education or were exposed to hypertension health education might be able to read and interpret the information better. Also, the information could be provided by previous hypertension health education or social media. It was possible that income could influence patients' beliefs from different income

groups living in other environments, which might impact how they perceive things. Besides, education level and health education would somehow influence how people perceive things. Systolic and diastolic BP and body mass index were expected to have significant relationships with treatment adherence. As diet control and weight control are poor, which means treatment adherence is poor, the BMI will be uncontrolled as well and leads to uncontrolled BP.

**Conclusion** Systolic and diastolic blood pressure, BMI, and the number of antihypertensive medications taken daily were the predicting factors for treatment adherence.

## APCU 06 MULTIPLE MYELOMA COEXISTENCE WITH CARDIAC AMYLOIDOSIS

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10.1136/openhrt-2024-APCU.6

**Introduction** AL amyloidosis may develop in patients with multiple myeloma (MM) or may progress from monoclonal gammopathy of undetermined significance (MGUS). Coexistence of MM with cardiac amyloidosis is very rare. We are reporting a case of newly diagnosed of multiple myeloma concomitant with features of cardiac amyloidosis.

**Case Presentation** 56 years old lady who was diagnosed with End Stage Renal Failure on regular dialysis since October 2023. Her laboratory results showed normocytic normochromic anaemia with impaired renal function and hypercalcemia. Her serum paraprotein showed presence of IgD Lambda paraprotein band with concentration of 6g/L at gamma region with raised serum lambda free light chain. The results of bone marrow biopsy specimen was consistent with MM evidenced by presence >10% plasma cells infiltration. Tissue fat biopsy showed positive Congo red stain, consistent with amyloid deposition. Echocardiogram demonstrated concentric left ventricular hypertrophy (LVH) with speckled appearance of the myocardium and apical sparring pattern. Her left ventricular ejection fraction (LVEF) was 62%.

**Discussion** The diagnosis of cardiac amyloidosis is primarily identified through the characteristic global longitudinal strain (GLS) apical sparing pattern, combined with concentric left ventricular hypertrophy. To further differentiate between AL and ATTR amyloidosis, a nuclear scan or cardiac MRI can be utilized. However, in this case, the presence of renal impairment complicates further diagnostic confirmation. The patient's critically ill condition also poses significant challenges for additional workup. The coexistence of both multiple myeloma and cardiac amyloidosis complicates monitoring but offers some advantages. Beyond tracking paraprotein levels, serial echocardiograms can provide valuable insights into the patient's response to treatment. However, these assessments require the expertise of an experienced echocardiographer to ensure accurate classification of treatment response. This is a rare clinical scenario, as documented in limited literature. In this case, treatment options are further constrained by the patient's dependency on dialysis. Early diagnosis might have significantly altered the clinical course.

**Conclusion** Cardiac amyloidosis can occur alongside multiple myeloma, careful screening is essential to avoid overlooking this possibility. In addition to affecting prognosis, this combination with echocardiography assessment may provide an extra method to monitor the disease.

## APCU 07 THE OUTCOME OF A YOUNG LADY WITH LUPUS CARDITIS

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**Introduction** Lupus carditis is a serious manifestation of systemic lupus erythematosus (SLE) affecting the heart. It is a significant contributor to morbidity and mortality in SLE patients caused by immune complex deposition in heart tissues leading to inflammation. Antinuclear antibodies (ANA) and anti-double stranded DNA (anti-dsDNA) antibodies, are commonly implicated. We report a case of lupus carditis in a young lady who improved following intravenous immunoglobulin (IVIG) on top of standard therapy.

**Case Presentation** A 38-year-old lady was admitted with one month history of fever, arthralgia, myalgia, and 5kg of unintentional weight loss. Initial investigations revealed pancytopenia and connective tissue disease (CTD) screening was negative. Her bone marrow aspiration and trephine biopsy suggested reactive marrow with dysplastic changes. She developed multiple episodes of altered sensorium and seizure, but brain imaging revealed no focal lesions or haemorrhages. Repeated CTD screening was positive for ANA (1:640 speckled pattern), anti-dsDNA, anti-ribosomal P protein, and anti-AMA M2. Later, she experienced cardiac arrest due to pulseless ventricular tachycardia, requiring resuscitation and defibrillation. Post-resuscitation echocardiography showed global hypokinesia with left ventricular ejection fraction (EF) of 25% and raised in ProBNP >9000. Thus, diagnosis of SLE involving multiple organs, including lupus carditis, cerebritis, musculoskeletal and haematological involvement was made. She was started high dose IVIG for 5 days together with intravenous cyclophosphamide for six cycles and tapering doses prednisolone. A follow-up echocardiography after six cycles of cyclophosphamide showed a significant improvement in EF from 25% to 60%, along with concentric remodelling.

**Discussion** Early and aggressive treatment is crucial in managing severe SLE with multiorgan involvement. Lupus carditis is rare but potentially fatal complication, affecting up to 10% of SLE patients. There were few case reports of patients with lupus carditis treated with mycophenolate mofetil and high dose corticosteroid, of which 50% showed significant improvement. However, there were limited case reports in the literature where IVIG was used with cyclophosphamide and prednisolone to treat lupus carditis. The gold standard for diagnosis of lupus carditis is endomyocardial biopsy, but not