

APCU 29 | EXPLORING THE EFFECTS OF SODIUM-GLUCOSE COTRANSPORTER 2 INHIBITOR (SGLT2 INHIBITOR) IN ELDERLY PATIENTS WITH HEART FAILURE WITH REDUCED EJECTION FRACTION (HFrEF), WITH AND WITHOUT TYPE 2 DIABETES MELLITUS (T2DM)

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Introduction Complex Heart Failure with reduced Ejection Fraction (HFrEF) causes left ventricle dysfunction and global cardiovascular morbidity and mortality. Type 2 Diabetes Mellitus (T2DM) increases cardiovascular risk, requiring early detection, self-management, blood pressure, glucose, and cholesterol treatment. SGLT2i may improve cardiovascular outcomes and diabetes treatment in the elderly. Over three months to two years, this trial examined the efficacy and safety of SGLT2i in older patients with HFrEF, including those with and without T2DM.

Method This retrospective observational study involved patients aged 65 and older with an EF of $\leq 40\%$ from cardiology clinics. Patient medical records from 2018–2023 provided data for analysis, including demographics, comorbidities, hospitalisation, changes in EF, New York Heart Association (NYHA) shifts, estimated Glomerular Filtration Rate (eGFR) reduction, and mortality.

Results Our study focused on 167 elderly HFrEF patients (65 + years) treated with SGLT2i, split into T2DM (125) and non-T2DM (42) groups. While both groups had similar demographics, 80.6% of T2DM patients had hypertension compared to 37.2% of non-T2DM patients ($p < 0.001$). Empagliflozin was the predominant treatment, with significant differences in prescription rates between groups ($p = 0.045$). Both groups demonstrated similar improvements in EF and NYHA classification. Although cardiovascular events, hospitalisation, and mortality were higher in T2DM patients, these differences were not statistically significant. Non-T2DM patients experienced a more notable reduction in eGFR ($p = 0.018$).

Discussion The difference in comorbidities between the two groups likely reflects the strong connection between diabetes and hypertension, which often coexist due to shared mechanisms like insulin resistance. Empagliflozin was more commonly prescribed to T2DM patients, likely due to its proven benefits in diabetes management, as highlighted in the EMPEROR-Reduced trial. While SGLT2 inhibitors improved heart function and symptoms in both groups, the greater reduction in eGFR among non-diabetics indicates a need for closer monitoring of kidney function in these patients.

Conclusion In elderly HFrEF patients, SGLT2i improved EF and NYHA classification regardless of T2DM status. However, the combination of T2DM and CKD was linked to higher hospitalisation and mortality rates.

APCU 30 | ENHANCING ANTICOAGULATION THERAPY: CLINICAL OUTCOMES IN STEMI PATIENTS POST-PRIMARY PCI

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Introduction Primary Percutaneous Coronary Intervention (PPCI) for acute ST-Elevation Myocardial Infarction (STEMI) is increasingly concerned about in situ thrombosis. Endothelial dysfunction is the cause of vasomotor dysfunction and inflammation. Risk factors include the stent, procedure, lesion, and patient-specific difficulties. The aim is to assess the Major Adverse Cardiac Events (MACE) and bleeding events among acute STEMI Killip 1 patients with and without post-PPCI anticoagulation therapy.

Method This retrospective observational analysis included 238 acute STEMI Killip 1 patients from two Malaysian tertiary institutions who received PPCI between 2017 and 2019. Compare risk factors, mortality, revascularisation, cardiogenic shock, heart failure, and bleeding events of standard post-PPCI anticoagulant therapy to those not treated.

Results After PPCI, 86 patients (36%) received anticoagulants, while 152 did not. Bleeding episodes were significantly associated with urea, creatinine, low-density lipoprotein (LDL), damaged arteries, drug-eluting stent (DES) insertion, and anticoagulant duration ($P < 0.05$). Cardiogenic shock was linked to STEMI diagnosis, heart rate, and platelet count ($P = 0.037$ – 0.023). Additionally, substantial correlations exist between diastolic blood pressure ($P < 0.01$), HbA1C ($P = 0.003$), and revascularisation ($P < 0.05$). Additionally, haemoglobin, platelet count, urea, creatinine, and HbA1C were linked to death and heart failure ($P < 0.05$). Two patients (2.3%) in the anticoagulants group underwent revascularisation, but angiograms showed no stent thrombosis, while just one patient (0.7%) in the non-anticoagulants group needed revascularisation.

Discussion This study discovered comparable baseline characteristics and angiogram findings between anticoagulant and non-anticoagulant groups. These findings also suggest that close monitoring and early intervention in patients with high heart rates and abnormal platelet counts could be critical in preventing cardiogenic shock. Healthcare providers should prioritise early intervention and meticulous management of heart rate, platelet count, and HbA1C levels in STEMI patients to reduce the risk of cardiogenic shock and other complications.

Conclusion After PPCI, anticoagulation did not enhance mortality or revascularisation. Routine anticoagulation after PPCI did not increase bleeding. This shows that while anticoagulant medication may decrease stent-related problems without raising bleeding risks, its overall benefit in post-PPCI outcomes is unclear, requiring more diversified studies.

APCU 31 | CATHETER-RELATED ATRIAL THROMBUS IN METHICILLIN-SENSITIVE STAPHYLOCOCCUS AUREUS (MSSA) BACTERAEMIA

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Introduction Catheter-related right atrial thrombus (CRAT) is a rare yet potentially serious complication associated with central venous catheters. However, in the presence of MSSA bacteraemia, catheter-related septic thrombosis is suspected in this group of individuals.

Case Presentation We describe a 40-year-old woman with end-stage renal disease on regular haemodialysis via a central venous haemodialysis catheter who presented with intradialytic