

increased risk of thromboembolism and bleeding events compare to antiplatelets.

**Objective:** To study the safety and effectiveness of the DAWN AC computer-assisted oral anticoagulant dosage program compare to manual adjustment by doctors.

**Method:** In this retrospective study, we compared the use of physician dosing (year 2015) versus computer dosing (year 2017) in the management of patients in the warfarin clinic of the National Heart Institute, Malaysia. Our outcome measures are time in therapeutic range, thromboembolic events and major bleedings.

**Results:** A total number of 187 patients were recruited: 85 patients from manual dosing group in 2015 and 103 patients in computer assisted group in 2017. Most common indications for warfarin are atrial fibrillation, mechanical mitral valve replacement and mechanical aortic valve replacement. Mean CHA2DS2-VASc score were  $2.54 \pm 1.16$  and  $2.15 \pm 1.16$  in manual group and in computer assisted group respectively ( $p = 0.11$ ). Mean HASBLED score were  $1.16 \pm 0.962$  in manual vs  $1.16 \pm 1.03$  in computer dosing ( $p = 0.95$ ). Time in therapeutic range was not statistically significant different between two groups, with mean TTR of 78.7% in manual dosage vs 69.9% in computer assisted group ( $p = 0.17$ ). Time in therapeutic range of INR above 70% is 56.5 % of patients in manual group, as compared to 54.4% in computer assisted group ( $p = 0.88$ ). There was no new stroke in both groups during one year follow-up. There were 2.9% of major bleeding in computer assisted group, as compared to 1.1% bleeding in manual monitoring group ( $p = 0.63$ ).

**Conclusion:** Computer assisted dosing system is as effective as manual dosing in term of TTR in patients taking warfarin. There was no statistically significant different in event rates in both groups. There is numerically higher in bleeding in computer assisted group but it was not statistically significant. Computer assisted program can be safely implemented in the hospital and community clinics without direct supervision under physicians.

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### 31.

#### The Association between CYP2C19 Genotype and Phenotype and the Impact on 1-year Outcomes Following Phenotype Guided-escalated Antiplatelet Therapy in Myocardial Infarction Patients with Drug Eluting Stents

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**Background:** Clopidogrel high on-treatment platelet reactivity (HPR) is an independent predictor of major adverse cardiovascular events (MACE) in myocardial infarction (MI) patients with drug eluting stents (DES). Despite published guidelines in which more potent ticagrelor, is preferred, clopidogrel remains the treatment choice in Malaysia due to cost reason. The use of point-of-care (POC) instruments in phenotype-guided escalated therapy (GES) could be explored.

**Objective:** To determine the 1-year clinical and economic outcomes of GES in patients post MI with DES.

**Materials and Methods:** Patients admitted between Sep-Dec 2017 with MI and DES, had POC platelet function testing (PFT) (Multiplate®) and CYP2C19 genotyping (Spartan Rx Assay) performed upon discharge. Patients with clopidogrel HPR were switched to ticagrelor. One year follow-up and budget impact analysis were assessed.

**Results:** Out of the 40 patients recruited, mean age was  $56.08 \pm 11.33$  years and 92.5% were male. Approximately one third had wildtype (WT) CYP2C19 \*1/\*1 genotype, while the remaining had  $\geq 1$  loss-of-functional alleles (LOF) [(WT: 30.0%; 1 LOF: 62.5%; 2 LOF: 7.5%); (Percentage of clopidogrel HPR: 0% vs. 8% vs. 33.3%)]. None had \*17 gain-of-function alleles. Clopidogrel reactivity (MEA ADP) was significantly higher in patients with more LOF compared to WT [median (IQR): WT vs. 1LOF vs. 2LOF: 246(268), 316(189.50) and 478(-) respectively,  $p = 0.06$ ]. Aspirin HPR (MEA ASPI  $\geq 300$  AU\*min) made up 10.0% of the population. All three with clopidogrel HPR (MEA ADP  $\geq 600$  AU\*min), 10.7% of those who had  $\geq 1$  LOF, were switched to ticagrelor. All patients had normal on-treatment platelet reactivity and were alive at discharge. At 1-year, MACE were 12.5%. Significant associations were neither observed between presence of LOF and MACE ( $p = 0.627$ ), nor between those who initially had clopidogrel HPR and MACE ( $p = 1.000$ ). At 1-year, the cost of GES (including drugs, PFT and MACE) of 40 patients was lower compared to standard therapy (SDT) and guideline-recommended ticagrelor-for-all therapy (drugs and MACE) (RM 90,331.60 vs. RM 117,688 vs. RM 184,936).

**Conclusions:** Presence of LOF is significantly associated with clopidogrel HPR but only 10.7% were switched to ticagrelor due to HPR. CYP2C19 genotyping could not be used as a sole guidance in antiplatelet therapy. GES is more cost effective and had lower 1-year MACE compared to standard therapy.

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### 32.

#### Quality of Life and Treatment Satisfaction Among Patients on Long Term Oral Anticoagulant in A Developing Country

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**Background:** Randomised phase III studies had proven the efficacy and safety profile of direct oral anticoagulant (DOAC) over warfarin in stroke and systemic embolism prevention for patients with atrial fibrillation (AF) and venous thromboembolism (VTE). Nevertheless, patients' quality of life (QOL) and treatment satisfaction was not explored in these studies.

**Objective:** The primary objective of this study was to compare the QOL and treatment satisfaction of patients on long term warfarin versus DOACs in a tertiary hospital in Malaysia.

**Methods:** This is a cross-sectional study of patients with non-valvular AF (NVAF) or VTE on long term warfarin versus DOACs attending the cardiology clinic and anticoagulation clinic of University Malaya Medical Centre from 1 st July 2016 to 30 st June 2018. Patients' QOL was assessed by using Short Form 12v2 Health Survey (SF12v2); while treatment satisfaction was assessed by using Perception of Anticoagulation Treatment Questionnaire 2 (PACT-Q2).

**Results:** Of 208 patients, 52.4% received warfarin and remaining 47.6% received DOACs. The warfarin group was significantly younger and had longer treatment duration ( $p < 0.001$ ); while DOAC group had significant more underlying NVAF ( $p < 0.001$ ) and polypharmacy ( $p = 0.003$ ).

There was no significant difference in the score of physical component summary (PCS) ( $p = 0.083$ ), mental component summary (MCS) ( $p = 0.665$ ) and each domain of SF-12v12 ( $p = 0.058 - 0.953$ ) between anticoagulant groups. There were no differences between the 2 groups of anticoagulants even after adjustment of age. The satisfaction

score was significant higher in DOACs group compared to warfarin group ( $p = 0.003$ ); but there was no difference in the convenience score ( $p = 0.234$ ).

Hospitalisation rate was significantly higher ( $p = 0.002$ ) in warfarin group. Only 45.0% of patients achieved good time in therapeutic range (TTR).

**Conclusions:** Despite no significant difference in QOL, patients with AF or VTE who were treated with DOACs demonstrated better efficacy, safety, and satisfaction profile, as well as a relatively stable within-group QOL.

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### 33. Prior Antiplatelet Therapy and Clinical Outcomes in Acute Coronary Syndrome

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**Background:** Antiplatelet agents remain the mainstay of therapy in acute coronary syndrome (ACS). There is limited information on outcomes of prior antiplatelet (PAP) use in ACS patients.

**Objective:** To evaluate the impact of PAP use in patients presenting with ACS.

**Materials & Methods:** This retrospective observational cohort study included ACS patients who admitted to Hospital Serdang between January to December 2016. These patients were recruited through consecutive sampling. The rates of cardiovascular events (a composite of death, ACS, stroke or stent thrombosis) were assessed during hospitalisation and up to one year after discharge. PAP is defined as patients who use antiplatelet agents within 30 days before admission for ACS treatment. Logistic regression was used to compare cardiovascular events during hospitalization and after discharged.

**Results:** 457 patients were included [77.5% male, mean age 57.0 (1.6) years]. Among of them, 33.9% ( $n=155$ ) had PAP. PAP users were associated with lower cardiovascular events during hospitalization compared with non-PAP users (2.6% vs 6.6%; adjusted OR 0.32, 0.10-0.99;  $p=0.048$ ). Cardiovascular events after hospital discharge were similar in both groups (30.1% in PAP vs 20.9% in non-PAP; adjusted OR 1.55, 0.95-2.54,  $p=0.080$ ).

**Conclusions:** Our study shows prior use of antiplatelet therapy was associated with lower risk of cardiovascular event during hospitalization. Further study will be beneficial to explore further the findings.

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### 34. Outcomes of Percutaneous Coronary Intervention in Significant Coronary Artery Disease Patients with Documented Poor and Normal Left Ventricular Ejection Fraction

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**Background:** Prognostic and risk assessment of acute coronary syndrome is a crucial role in weighing the necessity of invasive revascularization procedures. Reduced left ventricular ejection fraction (LVEF), multi vessel disease, more severe and proximal coronary lesions, older age, significant depression and more severe angina are predictors of poor outcome.

**Objective:** To identify the outcomes of patients with impaired and normal left ventricular function (with documented echocardiography) who underwent for per cutaneous coronary intervention for significant coronary artery disease.

**Materials & Methods:** Retrospective analysis of National cardiovascular disease-Percutaneous Coronary Intervention (NCVD-PCI) registry database from year of 2007 to 2014.

**Results:** Out of total 18582 patients, documented echocardiography noted in 7248 patients. 1207 (16.7%) patients were diagnosed with impaired LV function (ejection fraction  $<40\%$ ) while 4366 (60.2%) patients had good LV function (ejection fraction  $>50\%$ ). The rest 1675 (23.1%) with LV function of 40-50% are excluded in this analysis. Similar mean age for both study groups ( $57.45 \pm 10.38$  years) with predominantly male patients. 23.9% patients with poor LV function and 22.2% patients with good LV function are active smokers. Diabetes was more commonly associated in impaired left ventricular patients (50.9% vs 44.0%). Hypertension and dyslipidemia were more commonly seen in patients with good LV function. Previous history of percutaneous coronary intervention in 598 (13.7%) patients from good LV function group and 173 (14.3%) individuals with impaired LV function. 579 (48.0%) impaired cardiac function patients presented with acute coronary syndrome whereas 1680 (38.5%) patients with normal LV function presented as it is. Immediate hospital outcome such as overall death rates (all- cause mortality) are more common in impaired LV function group 1.1% vs 0.4% in comparison to the group of patients with good LV function. Impaired left ventricular ejection fraction  $<40\%$  patients have significantly worse survival (HR: 2.54, 95% CI, 1.25-5.14;  $P < 0.05$ ) than patients with preserved left ventricular function on long term follow up.

**Conclusions:** Coronary artery disease patients with documented poor left ventricular ejection fraction are carrying significant poor clinical outcomes in terms of both immediate and long term outcomes even with percutaneous coronary interventions.

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### 35. Outcomes of Percutaneous Coronary Intervention in Significant Coronary Artery Disease Patients with Documented Poor and Normal Left Ventricular Ejection Fraction

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