Conclusion: In our retrospective observational study of TAVI measurement variability, we found that there was no significant difference in the measurement variability of annular area or coronary heights between TAVI operators or our experienced radiographers. However, clinical decision making was altered on five occasions with changes in valve sizing due to minor measurement variability.

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Mechanical Circulatory Support for Semi–elective PCI in High-risk Patients with Extracorporeal Membranous Oxygenation (ECMO) Compared to Impella Heart Pump Device

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Background: Impella and Veno-Arterial extracorporeal membranous oxygenation (VA-ECMO) provide consistent augmentation of cardiac output, which can alleviate haemodynamic fluctuations during high-risk PCI. Paucity of data Australian exists.

Methods: We retrospectively analysed (January 2010- January 2019) Liverpool Cardiac Catheterisation and ICU database for consecutive patients receiving Impella or VA-ECMO support for semi-urgent high-risk PCI (non-shock).

Results: 6 patients received VA-ECMO (3 with adjunctive IABP) and 9 IMPELLA for non-operable (heart team) high risk PCI. VA – ECMO group mean age 70.8 ± 4.6years (44-82). All with severe LV dysfunction and MVD (4 severe LM ischaemia+MVD post-NSTEMI). All had general anaesthesia and ICU admission [LOS 9.5 ± days (24 –1)] and surgical decannulation. VA-ECMO dwell time 18.2 ± 8.8hours (3-24hours). 6 access site complications [1 minor bleed, 5 major bleed (4 femoral, 1 axillary), 2 limb ischemia (1 amputation).

IMPELLA patients mean age 66.5 ± 14 years (92 –51). Severe LV dysfunction in 77.8% MVD (4 severe LM ischaemia+ MVD post NSTEMI). Majority non-GA sedation (88%). Impella removed immediately post procedure. 2 cases required ICU [ICU LOS 0.5 – 1.3 days]. 6 access site complications [3 minor (2) major bleeds, (1) limb ischemia requiring OT]. Impella was associated with reduced post-PCI and ICU LOS compared to VA – ECMO. Post PCI LOS 7 ± 4.8 days, median 4 days vs VAECMO mean15 ± 7.7 days, median 13 days (p value = 0.04). All PCI cases were successful with a 0% mortality and complete recanalisation.

Conclusions: VA-ECMO and Impella support for high-risk PCI (complex anatomy/non-operable/poor LV function) achieves excellent results. VA ECMO is resource intensive with high access-site complications, IMPELLA associated with significantly reduced ICU admissions, and reduced post PCI length of stay.

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Multi-vessel Coronary Artery Disease in STEMI: Prevalence, Management and Impact on Length of Stay

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Background: St George Hospital is a tertiary facility located in Southern Sydney offering 24/7 PCI for STEMI. The prevalence of multi-vessel coronary disease (MVD) in STEMI is significant and the decision to treat non-culprit (NC) arteries during the index procedure, as a staged procedure or to not treat at all is contentious. The aim of this study was to assess the prevalence of MVD during STEMI, interrogate the management and look at the overall length of stay.

Methods: Data was retrospectively collected from consecutive patients presenting with STEMI in 2017 and 2018. Demographic, procedural and outcome data was recorded.

Results: There were 190 STEMI during the study period. 107 (56%) patients had MVD. Of this 22 (20%) had NC PCI during the index procedure, 28 (26%) had NC PCI as an inpatient, 27 (25%) had NC PCI as an outpatient, 17 (16%) had inpatient CABG, 4 (3.5%) were referred for outpatient CABG and 22 (21%) were medically managed. Excluding 2 extreme outliers, the average length of stay for those who had NC PCI during the index procedure was 5.08 days and as an inpatient was 7.5 days.

Conclusion: MVD is common during STEMI. Patients who received NC PCI during the index procedure had an overall shorter length of stay compared to those who had NC PCI as an inpatient.

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Non-adherence to Anti-platelet Therapy Increases Long-term Mortality After Percutaneous Coronary Intervention; 5-year Outcomes from the GenesisCare Cardiovascular Outcomes Registry (GCOR)

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Introduction: Secondary prevention therapies including dual anti-platelet therapy (DAPT) are recommended after percutaneous coronary intervention (PCI). However, long-term outcomes of patients who cease anti-platelet medication are unknown.

Methods: Patients discharged on evidence-based medications were stratified into those continuing DAPT or anti-platelet monotherapy (MAPT), or no anti-platelet therapy at 2 years. We assessed the association of DAPT and MAPT adherence with 5-year all-cause mortality adjusted for baseline clinical and lesion characteristics,