PUBLIC REPORTING OF OUTCOMES AFTER PERCUTANEOUS CORONARY INTERVENTION: IS MORTALITY THE BEST OUTCOME?

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Introduction Public reporting of 30-day mortality after percutaneous coronary intervention (PCI) imply that death after PCI is a complication for the interventional cardiologist and the hospital. However, in many cases mortality can occur despite receiving optimal care and achieving a successful PCI result. This is especially true in the context of cardiac arrest and cardiogenic shock. This study sought to ascertain the causes of death and the incidence of PCI related mortality within 30 days.

Methods All patients who died within 30 days of PCI between Jan 2019-March 2020 in a tertiary cardiac centre were included. Baseline demographic and procedure related characteristics were recorded. Causes of death were identified through detailed chart review using Academic Research Consortium consensus guidelines. Causes of death were divided into cardiac and noncardiac, with further classification of cardiac deaths into PCI and non-PCI-related groups. PCI-related death was defined as death from complication of procedure such as definite or probable stent thrombosis, coronary dissection or perforation, aneurysm, bleeding and renal failure. All patient deaths were reviewed by a local morbidity and mortality meeting, including at least 3 independent consultant cardiologists not involved in the patients care, and NCEPOD classification of care recorded.

Results Of the 3554 PCI procedures performed during the study period, 96 (2.7%) deaths occurred within 30 days. The majority of these deaths occurred in patients presenting with ST-elevation myocardial infarction (75%). Of the deaths, 67 (69.8%) were cardiac and 29 (30.2%) non-cardiac. Only 8 (8.3%) deaths were attributed to PCI-related complications, representing 0.2% of the total population treated with PCI. Patients with non-PCI related death, compared with PCI-related, presented with a higher incidence of STEMI (78.4% vs 42.9%, p=0.02) and cardiac arrest (51.1% vs 0%, p=0.006). Contemporaneous review of the deaths by a panel of consultant cardiologists characterised clinical care as ‘A Good Practice’ in 92.7% of cases. This was lower in the group with PCI-related mortality, although not significantly so.

Conclusion Less than 10% of 30-day mortality following PCI appear attributed to the procedure itself, with more than 90% of patients receiving optimal care. As a result, 30-day mortality following PCI may not represent the best marker of PCI quality and other metrics such as patient reported outcome measures (PROMS) should be explored.

Conflict of Interest None

DRUG COATED BALLOON ONLY ANGIOPLASTY FOR STEMI

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Introduction The main benefit of stenting compared to balloon angioplasty (BA) in the context of ST segment elevation myocardial infarction (STEMI) is to reduce the need for repeat revascularisation rather than myocardial infarction or mortality. A small recent randomised trial demonstrated non-inferiority of drug coated balloon (DCB) angioplasty for PCI compared to drug eluting stent (DES) in terms of fractional flow reserve at 9 months. Our aim was to investigate the safety of DCB angioplasty in a contemporary STEMI population in terms of all-cause mortality and major adverse cardiovascular events.

Methods We identified all patients treated for STEMI in our institution from January 2016 till November 2019. We excluded patients with cardiac arrest, cardiogenic shock or requiring intubation; given that their mortality is more likely to be determined by the severity of their clinical presentation rather than the PCI strategy. The primary endpoint was all-cause mortality. The secondary endpoints were: cardiovascular mortality, acute coronary syndrome (ACS), ischaemic stroke, major bleeding and target lesion revascularisation (TLR). Data were obtained from the hospital episodes statistics from NHS digital. Clinical and angiographic data were collected from our prospectively collated database and supplemented from electronic records where required. All angiograms were reviewed to confirm treatment strategy, bifurcation lesions, coronary artery dissection and TIMI flow pre- and post-intervention.

Results A total of 1201 patients were identified. HES data were not obtained for 62 patients who had opted-out, therefore 1139 patients were included in the analysis; 452 treated with DCB and 687 with DES. The average age for the DCB group was 65.7 ± 12.5 years old (73% male); while for the DES group it was 65.5 ± 11.5 years old (74.1% males). The average follow up was 1089 ± 469 days and 1188 ± 449 days for the DCB and DES group respectively. There were a few differences between the groups (Table 1). There were no differences in all other clinical and angiographic characteristics. The all-cause mortality was 49/452 (10.8%) and 62/687 (9%) for the DCB and DES group respectively. Kaplan Meier estimator plot for all-cause mortality (figure 1) did not show a significant difference between the groups. There was no significant difference for any of the secondary endpoints (cardiovascular mortality, ACS, ischaemic stroke, major bleeding or TLR). On multivariable, stepwise forward conditional Cox regression analysis (Table 2), age, COPD, heart failure, estimated glomerular filtration rate, LMS/LAD disease, highest troponin elevation and frailty remained significant predictors of mortality.