INVESTIGATING VARIATION IN THE ATTITUDES OF CARDIAC SURGEONS TO COMPLETE CORONARY REVASCULARISATION AND ASSESSING THE IMPLICATIONS FOR PATIENT OUTCOME AS A RESULT OF A NON-STANDARDISED SURGICAL APPROACH

G Hooks, A Graham. The Royal Victoria Hospital Belfast, UK

10.1136/heartjnl-2022-ICS.1

Introduction Coronary artery bypass grafting (CABG) remains the most commonly performed cardiac surgery worldwide. The purpose is to completely revascularise the heart-performing bypass grafts to epicardial territories supplied by diseased native vessels. It has however been suggested that there is a plateau effect with no further benefit beyond performing one graft to each of the three major epicardial territories. What constitutes complete revascularisation (CR) is therefore debated and a higher number of bypass grafts may simply be a marker for more aggressive coronary disease and it has even been hypothesised that grafting more than one branch of the marginal circumflex and/or right coronary arteries may be detrimental. The concept of CR was investigated under 2 hypothesis:

Hypothesis 1 – Variation in cardiac surgeon’s approach to complete coronary artery revascularisation exists.

Methods 69 adult cardiac surgeons, (experience ranging from 1 to 38 years) responded to a SCTS electronic survey with each region (UK and Ireland) represented.

Results It was evident that no universally accepted definition of CR existed. Significant variation in clinical approach was demonstrated, most starkly when 32 unique variations in surgical CABG were proposed for a hypothetical patient after reviewing their history and angiogram. The number of proposed bypass grafts ranged from 1 to 7 (mode of 5). Hypothesis 2 - Variation in cardiac surgeon’s approach to complete coronary artery revascularisation affects clinical outcome.

Methods 842 consecutive patients with triple vessel coronary artery disease who underwent isolated, first time CABG between 01/08/08 and 28/01/11 in The Royal Victoria Hospital Belfast were retrospectively reviewed. Patients were categorised as having either undergone: •Conservative revascularisation-Receiving a maximum of 1 bypass graft per epicardial territory (n=416) •Non-conservative revascularisation-revascularisation-Receiving at least 1 bypass graft per epicardial territory (n=426) This created 2 highly comparable sample groups. Perioperative and long term outcomes were investigated using Chi square calculations and subsequently logistic regression. Results (tables 1 and 2, figure 2).

Conclusion Significant divergence in approach to CR was clearly demonstrated amongst cardiac surgeons across the UK and Ireland. As reported this variation did not however translate into a significant difference in peri-operative outcomes when conservative and non-conservative revascularisation strategies were compared (figure 1). This is extremely relevant to clinical practice. It can be confidently stated that non-conservative CR (i.e. performing more than 3 bypass grafts) does not appear to adversely affect the patient in terms of peri-operative outcomes...
operative morbidity or mortality. It was not possible to demonstrate a prognostic benefit of non-conservative CR after 10 years of follow up in this cohort of patients within the limitations of this study.

2  Pre-hospital direct ambulance transfer has led to major improvements in timeliness of PPCI in suspected STEMI: temporal trends over an eight-year period in a designated PPCI centre

Z Butt, B McGrath, D Cadogan, I Casserly, H McCann, J O’Neill, E Keelan, P Keelan, J Galvin, B Doyle, G Blake. Mater Misericordiae University Hospital, Dublin, Ireland

Background The optimal reperfusion service (ORS) protocol is a national strategy introduced in 2013 to standardize the pre-hospital care pathway for patients with ST-elevation myocardial infarction (STEMI). This protocol aimed to increase the proportion of STEMI cases directly transferred to designated primary percutaneous coronary intervention (PPCI) centres via ambulance. This evidence-based approach was implemented to improve the first-medical contact (FMC) to balloon time for STEMI cases in Ireland, as timeliness of PPCI at a national level was relatively poor as compared to international standards.

Aims To analyse temporal trends in STEMI cases arriving directly to Mater Misericordiae University Hospital (MMUH), a designated PPCI centre, following introduction of the ORS protocol; to compare FMC-to-balloon times and proportion of timely PPCI between STEMI cases arriving to MMUH via direct ambulance transfer (DAT) versus inter-hospital transfer (IHT).

Methods We obtained retrospective data from our hospital’s STEMI database of all cases referred for PPCI between January 1st 2013 and December 31st 2020. We used the hospital’s electronic record to obtain details of mode of referral, final diagnosis, and timeliness of interventions. Timely PPCI was defined as <120 minutes. Data from 2014 was unavailable.

Results Completed data on 2525 patients referred for PPCI to MMUH between 2013 and 2020 was collected. 2126 (84%) were ultimately diagnosed with STEMI. 1817 (85%) confirmed STEMI’s had FMC within 12 hours of symptom onset and underwent PPCI. Of these 1817 PPCI’s, 1289 (71%) were timely. As shown in figure 1. There was an overall gradual temporal increase in the proportion of patients arriving to

Abstract 2 Figure 1  Temporal trends in pre-hospital direct ambulance transfer rates to MMUH and effect on overall timeliness of PPCI in suspected STEMI

Abstract 2 Figure 2  Pre-hospital direct ambulance transfer versus inter-hospital transfer: Effect of timeliness of PPCI in STEMI