towards future developments and alternatives that may supersede the drug eluting stent hegemony.
Conflict of Interest None

77 A REVIEW OF LEFT MAIN STEM PERCUTANEOUS CORONARY INTERVENTION AT A TERTIARY CENTRE IN THE UNITED KINGDOM

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Introduction The role of percutaneous coronary intervention (PCI) in left main stem (LMS) disease continues to evolve with advances in stent technology, adjuncts such as intracoronary imaging, calcium modification techniques and left ventricular support devices. Moreover, with changes in the demographics of the UK population and of the patient population presenting with left main coronary artery disease, the applicability of findings from historic clinical trials is uncertain.
Aim We set out to review our routine clinical practice at our tertiary PCI centre. We aimed to compare our practice to contemporary best practice guidelines and to identify a process for on-going audit and improvement.
Methods We performed a retrospective review of all procedures coded for 'Percutaneous Coronary Intervention Left Main Stem' at our centre from 1st December 2018 to 1st June 2019. Coronary angiogram reports and electronic notes for each patient were reviewed. Angiographic images and intracoronary imaging were by two operators.
Results Thirty cases were identified, for twenty-nine individual patients. The average age of patient undergoing LMS PCI was 74 years old. 24 patients were male, 5 patients were female. 28 patients had greater than two co-morbidities, including chronic kidney disease (14 patients) and type 2 diabetes mellitus (11 patients). Nearly two thirds of patients had known left ventricular systolic dysfunction (n=17). The majority of cases (n=12) were for acute coronary syndrome, including 8 for ST-elevation myocardial infarction (STEMI) and/or out of hospital cardiac arrest. The remainder were elective cases for stable angina where optimal medical therapy had failed to relieve symptoms and surgery was not deemed appropriate. Intracoronary imaging was recorded in 24 cases, the majority of which (n=23) employed intravascular ultrasound (IVUS). However, only four cases had documented minimum luminal area (MLA) or minimum stent area (MSA). Thirteen cases required calcium modification, including by cutting balloon (n= 6), intravascular lithotripsy (n=7), and rotational atherectomy (n=1).Sixteen cases had distal left main bifurcation disease, and bifurcation PCI techniques included provisional 1-stent (n=6), provisional 2-stent (n=8), Culotte (n=7) and T and small protrusion (TAP) stenting. There were four in-hospital deaths, all in patients presenting with STEMI. One patient had a cardiac cause or procedural-related cause for re-presentation to our centre before 1st December 2019 (at least 6 months post-procedure). This presentation was related to heart failure and the patient did not require revascularisation.
Conclusions The case and coronary complexity of patients undergoing left main stem PCI is very high in our centre. We found that the use of intracoronary imaging was not always well documented and available for retrospective review. In view of the high number of cases requiring calcium modification and the high number of cases that included distal left main bifurcation disease, we have taken steps to support the mandated use of intracoronary imaging in left main stem disease within the coronary catheter laboratory team, including educational training and technical support.
Conflict of Interest None

Allied health professionals/Nursing/Health scientists

78 AUDIT OF ECHOCARDIOGRAPHIC PROBABILITY OF PULMONARY HYPERTENSION IN A REAL WORLD POPULATION REFERRED TO A SPECIALIST CENTRE

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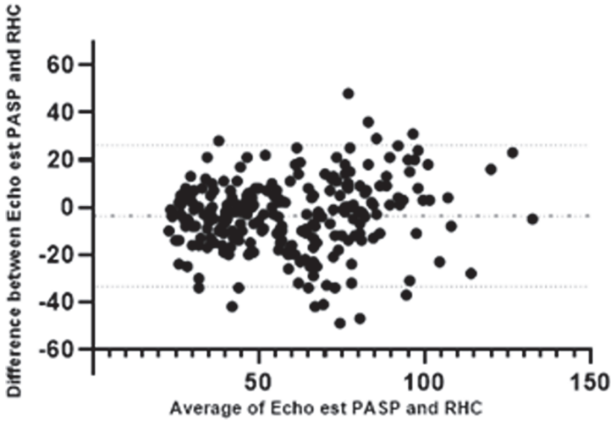
Introduction Transthoracic echocardiography (TTE) is an established screening tool used in the assessment of suspected Pulmonary Hypertension (PH). There is evidence to suggest Doppler estimates of Pulmonary Artery Systolic Pressure (PASP) are inaccurate compared to Right Heart Catheter (RHC) measures. Therefore, the ESC and BSE recommend a multi parameter assessment of TTE probability of PH. This retrospective audit sought to evaluate the effectiveness of the BSE/ESC TTE probability algorithm in detecting PH in a real world cohort referred to a shared care PH centre.
Method Between 2010 and 2019, a total of 310 patients referred for initial assessment of PH underwent TTE followed by RHC (median interval 31±30 days). PH TTE probabilities were calculated following BSE/ESC guidance. Bland-Altman analysis was used to investigate the accuracy of Doppler estimates of PASP compared to RHC.
Results The mean sample age was 67±14years (62% female). Seventy-six percent (n=235) had PH (mPAP ≥25mmHg) (average mPAP 42.8±11.7mmHg), 26% (n=80) having CTEPH. Doppler estimates of PASP tended to underestimate true PASP (bias -3.7±15.2mmHg) with wide limits of



Abstract 78 Figure 1 Bland-Altman plot of echocardiographic estimates of PASP (n=239) compared to RHC measurements

Abstract 78 Table 1 Clinical and RHC haemodynamic characteristics in those with PH that died compared to those that survived during the follow up period

	Survived (n=198) Median FU 31 months (IQR 18)	All-cause Mortality (n=37) Median FU 11 months (IQR 23)	Statistical significance
Age (years)	68±13	72±15	P<0.05
6MWD (m)	291.1±157	201.4±135	P<0.01
NT-proBNP plasma (ng/L)	1229.7±2027.9	3127.4±4166.85	P<0.05
Right atrial pressure (mmHg)	11±5.2	12.1±6.5	NS
Cardiac Index (l/min/m^2)	2.5±0.6	2.2±0.8	P<0.01
PA saturation (%)	66.6±7.9	57.9±11	P<0.001
mPAP (mmHg)	40.7±11.5	46±13.7	P<0.05
PVR (WU)	6±3.7	8.5±4.6	P<0.001

Data displayed as mean +/- standard deviation for continuous variables and % frequency for categorical variables. Mann-Whitney U analysis was used for statistical analysis of continuous variables and fisher's exact test for categorical values.

Abstract 78 Table 2 Echocardiographic characteristics in those with PH that died compared to those that survived during the follow up period

	Survived (n=198) Median FU 31 months (IQR 18)	All-cause Mortality (n=37) Median FU 11 months (IQR 23)	Statistical significance
Peak TRV (m/s)	3.48±0.8	4.01±0.7	P<0.001
Eccentricity index	1.3±0.4	1.3±0.4	NS
RV/LV basal diameter ratio	1.0±0.3	1.0±0.3	NS
RVOT acceleration time (ms)	88±29.3	74.9±18.9	NS
MPA diameter (mm)	23.1±5.8	24.5±5.7	NS
Early diastolic PRV (m/s)	2.1±0.6	2.4±0.3	NS
Right atrial area (cm^2)	20.5±8.6	21.7±8.8	NS
Frequency of IVC diameter >21mm with <50% respiratory collapsibility (%)	14%	32%	P<0.001

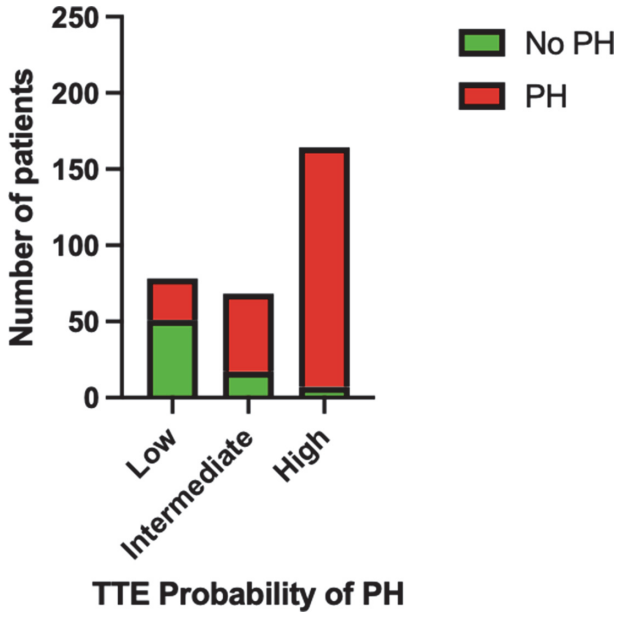
Data displayed as mean +/- standard deviation for continuous variables and % frequency for categorical variables. Mann-Whitney U analysis was used for statistical analysis of continuous variables and fisher's exact test for categorical values.

agreement (95% limits of agreement -33.5-26.1mmHg) (figure 1); highlighting the imprecision of Doppler estimates alone. Only 44% of Doppler TTE PASP estimates were within 10mmHg of RHC PASP readings. Underestimation occurred more frequently accounting for 66% of inaccurate TTE PASP estimates.

Ninety-six percent of those with a high TTE probability (average RHC mPAP 45.3±12.1mmHg) and 78% with an intermediate probability of PH (average RHC mPAP 32.8 ±11.2mmHg) had PH confirmed at RHC (figure 2). The sensitivity and specificity for detecting PH for the whole cohort was 89% and 68%, respectively. However, 35% (n=27) of low TTE probability had PH (average RHC mPAP 31.9±6.6mmHg) with PH secondary to LHD (n=17), CTEPH (n=5), PAH (n=4) and multifactorial/ unclear PH (n=1) observed in this group. The 4 PAH patients all had PH secondary to connective tissue disease (systemic sclerosis). NT-proBNP values were significantly higher in those with LHD compared to those with pre-capillary PH (462.6±428.1ng/L vs 148.4±107.7ng/L, p<0.01).

There were 38 documented all-cause mortalities (median FU 2 years, IQR 2), 37 in those with PH. Eighty-four percent (n=31) of these had a high TTE probability of PH. Those that died were significantly older, had lower cardiac index, PA sats, 6MWT distance, higher NT-proBNP, mPAP, PVR, TRV and more frequently had TTE evidence of raised RAP and pericardial effusion (p<0.05) (table 1).

Conclusion The PH TTE probability algorithm provides high sensitivity and moderate specificity for screening individuals at risk of PH. However, 35% of patients with low TTE probability had PH confirmed by RHC. Alternative strategies are



Abstract 78 Figure 2 Comparision of the frequency of PH relative to TTE probility of PH (n=310)

needed to improve the sensitivity to detect PH in those with a low TTE probability of PH.

Conflict of Interest None

79 IS VIRTUAL CARDIOLOGY TRAINING HERE TO STAY IN THE POST-COVID ERA?

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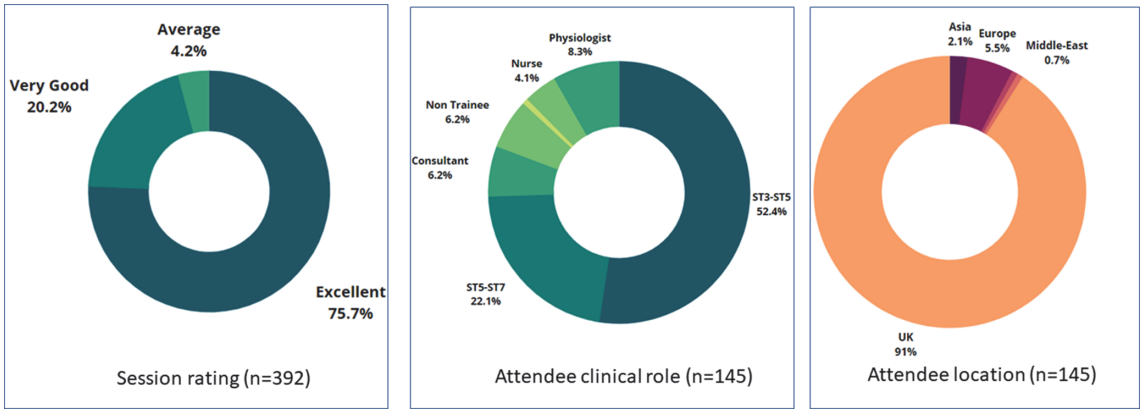
Background In April 2020, formal face-face cardiology training was put on pause due to COVID-19. We adapted by utilising a video-conferencing platform to continue some form of Cardiology education on a national scale, and maintain morale. This programme, known as CardioWebinar, has continued ever since. We looked to study the effectiveness of delivering virtual Cardiology education 1 year into the COVID pandemic.

Methods Expert speakers throughout the UK were sought after via social media and 'word of mouth.' Weekly webinars were organised and advertised (Canva posters) on social media (Twitter), as well as via the British Cardiovascular Society and British Junior Cardiologists' Association (BJCA) media links. Each webinar was scheduled mid-week at 17:30 (UK). Interested attendees registered for free using an online ticketing platform (Eventbrite). Webinars were delivered using an online video conferencing platform (Zoom) which required a £14.99 monthly subscription. Each webinar consisted of a 40-minute presentation followed by Q&A (20mins). All webinars were recorded and later accessible for free on the BJCA TV Gallery. A Learning Management System (LMS) was used to collect feedback after each session and generate certificates of attendance for attendee appraisal.

We systematically reviewed the LMS feedback of live attendees from 6 consecutive webinars delivered between Jan-Feb 2021. We further surveyed our most recent (March 2021) attendees (145 participants) via an extended questionnaire through the LMS exploring their experiences of our virtual education.

Results 55 CardioWebinars have been delivered since April 2020. The speakers have been predominantly Consultant Cardiologists from the UK. Some of the recordings have had >1000 views. Other than the video platform subscription, no cost was incurred in the delivery of this entire programme.We collected feedback from 392 respondents (~65 live attendees per webinar) from each session between Jan-Feb 2021. The sessions were rated as 'very good-excellent' by 97%. We collected a further 145 responses from March 2021 attendees to an extended questionnaire. 90% rated the whole series as 'very good –excellent' in supporting their cardiology education during the Covid pandemic, and 84% felt the programme sufficiently covered even the more challenging areas of the Cardiology curriculum (e.g aortopathies). 90% of the respondents felt that their work-life schedule allowed them to join the live webinars at this time. The respondents where predominantly from the UK (91%), though included an international audience (9%). Whilst 74% of attendees were cardiology trainees, the remaining 26% included physiologists, nursing staff, consultants and other junior doctors. 99% felt that virtual education should continue to play a formal part in their training after the COVID pandemic.

Conclusion Webinars allow everyone interested in cardiac care across the world the opportunity to hear experts teach, and



Abstract 79 Figure 1