54 THE FREQUENCY AND IMPACT OF PROCEDURAL DISTRACTIONS AND INTERRUPTIONS IN THE ADULT CARDIAC CATHETERISATION LABORATORY

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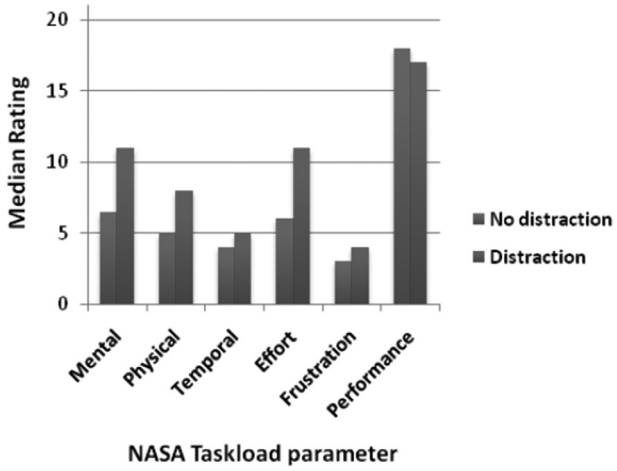
Purpose To understand factors contributing to disturbances during cardiac procedures, including frequency and nature of distractions, along with assessment of operator 'work-load' through NASA Task-load indices.

Methods A single centre prospective observational study was conducted on 194 consecutive patients undergoing cardiac procedures in 3 adult cardiac CL's over a period of 4 weeks. A distraction pro-forma was completed for each case by CL team members (predominantly physiologists), documenting procedural logistics and referring both to the level of risk of the procedure at that time (table 1) and frequency, nature and magnitude of each distraction/interruption (table 2). The primary operator completed a NASA Task-load questionnaire rating parameters to include mental and physical effort, level of frustration, time–urgency, and overall effort and performance on a scale of 1 – 21.

Results 264 distractions occurred in 106 procedures (55% of total); 80% were not relevant to the case being undertaken; 13% were due to emergencies occurring in the 'Hot- Lab' predominantly to discuss potential ST-elevation myocardial infarction requiring emergency angioplasty. Frequency of distractions per case ranged from 1 to 16, with an average of 2.5; 16% (n=43) of these were documented to occur during high-risk stages (categories 3 or 4) of the procedure. Operator rating of NASA task-load parameters demonstrated higher levels of 'mental' and 'physical' workload and 'effort' when distractions occurred (figure 1).



Abstract 54 Figure 1

Conclusion In this first description of human factors in the adult cardiac CL we have shown that less than half of all procedures are completed without interruption/distraction. The vast majority of these are unnecessary and without relation to the case or list. We therefore propose the introduction of a 'sterile cockpit' environment in the CL, as has been adapted from the aviation industry within surgical operating theatres, to minimise

Abstract 54 Table 1 Procedural risk category

	Risk category 1	Risk category 2	Risk category 3	Risk category 4
Primary PCI	Vascular access	Catheter exchange Contrast delivery	Critical time to open artery Balloon inflation and stent delivery	Cardiac arrest Pericardial effusion/tamponade Life threatening bleed
Elective PCI	Vascular access	Catheter exchange Contrast delivery	Balloon inflation and stent delivery	Cardiac arrest Pericardial effusion/tamponade Life threatening bleed
CRT	Vascular access Wound closure	RV/RA lead placement Access to coronary sinus	Placement of LV lead/removal of delivery sheath	Cardiac arrest Pericardial effusion/tamponade Life threatening bleed
EPS/Ablation	Vascular access	Catheter placement Catheter exchange	Ablation catheter Signal analysis Transeptal puncture	Cardiac arrest Pericardial effusion/tamponade Life threatening bleed
Diagnostic angiogram	Vascular access	Catheter exchange Contrast delivery		Cardiac arrest Pericardial effusion/tamponade Life threatening bleed
Bradycardic PPM or ICD	Vascular access Wound closure	RV/RA lead placement		Cardiac arrest Pericardial effusion/tamponade Life threatening bleed
PPM Box change	Wound closure			Cardiac arrest

non-emergent interruptions and disturbances, in an attempt to improve operator conditions and overall patient safety.

Conflict of Interest Nil

55 INVASIVE CORONARY PHYSIOLOGY BEFORE AND AFTER TAVI: A QUANTITATIVE META-ANALYSIS

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Introduction As TAVI expands to younger and lower surgical risk severe AS patients, appropriately treating co-existent coronary artery disease is key to improving long-term cardiovascular outcomes. Recently, coronary physiology has been studied in patients undergoing TAVI in an attempt to incorporate it in revascularisation strategies. We seek to perform a meta-analysis of studies exploring the influence of TAVI on coronary physiology.

Methods We conducted a search of Medline and EMBASE to identify studies evaluating coronary physiology indices before and after TAVI. Double independent screenings and extractions were employed. Random effect meta-analysis with the inverse variance methods were used to estimate the pooled mean difference of coronary haemodynamic indices before and after TAVI. Analyses were performed with RevMan (Review Manager version 5.3.5, Nordic Cochrane Centre, Denmark).

Results Five studies evaluating coronary physiology in169 severe AS patients with 250 interrogated coronaries were included in the quantitative meta-analysis. The mean participant age and aortic valve area were 81 and 0.71cm^2 respectively. In non-diseased coronary vessels, coronary flow reserve (CFR) and fractional flow reserve (FFR) did not significantly differ following TAVR; mean difference 0.11; 95% CI -0.10, 0.32; p=0.29; I2=0%; p=0.68; n=3 and mean difference -0.01; 95% CI -0.04, 0.03; p=0.75, I2=41; p=0.19; n=2 respectively. In stenosed vessels, FFR and instantaneous wave-free ratio (iFR) did not significantly change following TAVR with comparable precision; mean difference -0.01; 95% CI -0.03, 0.01; p=0.49, I2=0%; p=0.46; n=3 and mean difference 0.00; 95% CI -0.02, 0.02; p=1.00, I2=0; p=1.00; n=2 respectively.

Conclusion Our meta-analysis demonstrates that there are only minor, non-significant variations in coronary physiology measurements of severe AS patients before and after TAVI. The stability of invasive physiology assessment in severe AS patients is important for its incorporation in decision making algorithms. Studies investigating optimal ischaemic and intervention FFR and iFR cut-offs in patients with severe AS are anticipated.

Conflict of Interest None

56 PREDICTING POOR SHORT AND MEDIUM-TERM SURVIVAL AFTER TAVI: A SINGLE UK CENTRE EXPERIENCE

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Transcatheter Aortic Valve Implantation (TAVI) for severe, symptomatic aortic stenosis improves quality of life and survival in most patients. It is, however, important to identify patients who are unlikely to get these benefits from TAVI so that futile treatment can be avoided. Futility in this context can be regarded as lack of functional improvement or death within the first two years after the procedure. The FRANCE-2 multi-parametric risk score was previously developed to predict mortality after TAVI and comprises 9 pre-procedural factors integrated into a 21-point scoring system. The FRANCE-2 score was originally validated against early (up to 30 days) mortality after TAVI but its value in anticipating longer term outcomes is uncertain. The aims of this study were to determine whether the FRANCE-2 scoring system is of value in determining medium as well as short term survival in patients undergoing TAVI in a single UK centre and to compare its relative merits in this regard with the logistic EuroSCORE. A cohort of 187 consecutive patients undergoing TAVI in a single UK centre were studied. Baseline clinical data were collected from the UK Central Cardiac Audit Database (CCAD) and patient records. Mortality tracking was achieved in 100% of patients. FRANCE-2 risk scores were calculated retrospectively and c-statistics were applied to determine the discriminative power of the FRANCE-2 score and the logistic EuroSCORE in associating with mortality. Using the FRANCE-2 scores, the patients were divided into low risk (score 0), moderate risk (score 1–5) and high risk (score >5) groups and the survival outcomes were compared. Of the 187 patients, 57.2% were male and the mean age was 80.9±6.9 years. Survival rates after TAVI at 30-days, 1- and 2-years were 95.7% (n=179), 88.2% (n=165) and 77.5% (n=145) respectively. The frequency of high risk parameters in this cohort of patients that contributed to the FRANCE-2 scores is shown in the table. The median score was 2 and the highest

Abstract 56 Table 1

Patient parameters contributing to FRANCE-2 score	Values
Age ≥90 years	7.0% (n=13)
BMI <18.5	1.6% (n=3)
New York Heart Association Class IV	7.5% (n=14)
Acute pulmonary oedema ≥2 in past year	6.4% (n=12)
Systolic pulmonary artery pressure ≥60mmHg	5.9% (n=11)
Critical pre-operative state	4.3% (n=8)
Respiratory insufficiency	43.9% (n=82)
Dialysis	1.1% (n=2)
Transfemoral approach	93% (n=174)