14 ESTABLISHING A UK WIDE MODEL TO COLLATE CARDIAC CATHETER LAB MORBIDITY AND DRIVE QUALITY IMPROVEMENT

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Background Congenital catheterisation in the UK currently has no effective method of collating, benchmarking and acting on morbidity. Although NICOR has started to pay attention to quality measures in cardiac catheterisation within the UK, its remit does not allow it to adequately explore and assess models for morbidity and quality assessment. In the USA two specific quality assessment tools (C3PO database[1,2] and CRISP score[3,4]) for quality assessment in congenital cardiac catheterisation have been developed using retrospective data from several thousand congenital catheterisations mainly from the USA, but including our institution. Although UK and USA are developed countries with modern healthcare systems, they work in different ways and the application of any quality measures across both countries must be performed with caution.

Methods We retrospectively analysed morbidity and mortality data from diagnostic and interventional congenital cardiac catheter cases within a UK major congenital heart disease centre between June 2015 and September 2016. All electrophysiology catheters and those diagnostic catheters indicated as a work up for patient anaesthetic safety assessments were excluded. A retrospective cardiac catheter CRISP risk score[3,4] and associated risk category, calculated using 8 parameter points, was then applied to each case and comparisons made with observed congenital cardiac catheterisation complications.

Results A total of 306 congenital cardiac catheterisation procedures were analysed; diagnostic 43 (14.0%), interventional 249 (81.4%) and hybrid 14 (4.6%). Cardiac catheter urgency included elective 246 (80.4%), urgent (within 1 week) 39 (12.7%) and emergency (within 24 hours) 21 (6.9%) procedures. Patients included were aged 0 to 86.25 years. Figure 1 displays the CRISP Risk categories and associated serious adverse event complication rates for our patient cohort. There were 2 catastrophic cardiac catheter related complications, one case in each of the two highest CRISP Risk categories; death in cardiac catheterisation lab due to vessel rupture during pulmonary artery stenting for a CRISP Risk category 4 patient and death in PICU the day after balloon dilatation for aortic coarctation due to necrotising enterocolitis for a CRISP Risk category 5 patient.

Conclusions Quantitative data has shown important links between the CRISP risk score and congenital cardiac catheterisation complication rates. Qualitatively, we have found that the CRISP scoring tool is applicable to UK catheterisation practice, providing a meaningful tool for risk assessment, case planning and benchmarking for morbidity and complications. Expansion of the data set to a further 4 congenital centres within the UK and Ireland is currently in process, to allow a meta-analysis to produce logical and relevant morbidity and quality scores to augment the overview data collected by NICOR.

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15 NEED FOR A PERMANENT PACEMAKER FOLLOWING THE FONTAN PROCEDURE DOES NOT ADVERSELY AFFECT THE LONG TERM OUTLOOK

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CRISP Risk Category	Number of Patients (%) n = 306	Quoted Risk of a Serious Adverse Event ** (%)	Observed Risk of a Serious Adverse Event * (%)	Serious Adverse Event Complication Severity (Based on NICOR Classifications)				Death Within 30 Days of Cardiac Catheter (Unrelated)
				Mild	Moderate	Major	Catastrophic	
1	22 (7.2)	1.0	9.1	2	0	0	0	1
2	108 (35.3)	2.6	13.9	9	3	3	0	0
3	115 (37.6)	6.2	23.5	15	7	5	0	1
4	51 (16.6)	14.4	23.5	4	4	3	1	3
5	10 (3.3)	36.8	20.0	0	0	1	1	2

* Based on values ascertained from a study by Nykanen et al involving 14790 patients [3]

**Any adverse event causing mortality, permanent morbidity, need for further interventions, or extended length of stay

Abstract 14 Figure 1 CRISP Risk categories and associated serious adverse event complication rates.