Paediatricians with expertise in cardiology special interest group (PECSIG)

G9 EVALUATING OUTCOMES IN INFANTS DIAGNOSED WITH PULMONARY HYPERTENSION IN BRONCHOPULMONARY DYSPLASIA – A 4 YEAR RETROSPECTIVE STUDY

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Aims Chronic pulmonary hypertension (PH) is a complication of bronchopulmonary dysplasia (BPD), associated with increased morbidity and mortality. The aims of our study were to evaluate the outcomes of a cohort of patients with BPD alone, and with BPD complicated by PH.

Methods A single centre retrospective observational study involving all infants admitted to NICU between 1/10/14 to 1/8/18 and diagnosed with BPD. Data was collected from electronic patient records. Infants with persistent pulmonary hypertension of the newborn were excluded.

Results A total of 130 infants were diagnosed with BPD during this period, with 9 infants developing pulmonary hypertension (7%). Most patients who developed PH had severe BPD (table 1) and other severe comorbidities, such as extreme prematurity and sepsis.

Echocardiography can be used to screen for PH in patients with BPD. 91% of all patients with BPD had an echocardiogram during the initial hospital stay, but only 25% had one at the recommended time of 36 weeks.

8/9 patients with PH were given sildenafil to treat PH, and there was improvement in 75% cases after starting treatment. However, this was a short-lasting effect in 4 infants, who later had deterioration of PH.

The mortality in BPD patients without PH was 4% (5/121), whereas patients with BPD and PH had a higher mortality of 67% (6/9). All deaths occurred during the first year of life. In the BPD+PH group, 50% patients died from worsening PH, whilst the other 50% died from bronchiolitis or multiorgan failure, and all patients who died had severe BPD (table 1). 33% (3/9) patients were discharged from outpatient clinic. In BPD only patients, 31% (38/121) were discharged, 10% (12/121) are being followed up, and 55% (66/121) were transferred back to local hospitals.

Abstract G9 Table 1 Severity and mortality of BPD

Severity of BPD	Total no. infants with BPD alone	No. deaths in infants with BPD alone	Total no. infants with BPD+PH	No. deaths in infants with BPD +PH
Mild	21	2	0	0
Moderate	47	2	1	0
Severe	53	1	8	6

Conclusion Pulmonary hypertension is a serious complication of BPD, with high morbidity and mortality. There is an urgent need to implement a screening programme for early detection of PH in infants with BPD and study of their outcomes prospectively.

G10 SERVICE EVALUATION OF A BUSY LEVEL 3 CHILDREN'S CARDIAC CENTRE OVER 5 YEARS

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Background NHS 'Safe and Sustainable' programme emphasises providing high quality services near home. These services are provided in the Level 3 Children's Cardiac Centres by the paediatricians with expertise in cardiology (PECs) working in collaboration with the specialist paediatric cardiologists.

Aims and Objectives

- To assess workload trends in the paediatric cardiology clinic services in a busy level 3 Children's Cardiac Centre over the last 5 years
- To investigate outcomes of the new referrals to the outpatient clinics

Methods A retrospective observational study of all patients (0–18 years) seen in Paediatric Cardiology Clinics between 1 April 2014 – 31 March 2019. Data were collected from electronic patient records.

Results A total of 9884 patient episodes were recorded and approximately 55% of these were new patient episodes (new referrals).

There has been a >30% increase in patient episodes between 2014 and 2019. Similarly, there has been a trend increase in proportion of new patient episodes over the last 5 years - 51% in 2015 to 58% in 2019. However, there has been no increase in number of patients seen in the joint outreach clinics during this study period.

Outcomes of New Referrals In the last 4 years, 4238 new patients were seen in the cardiology outpatient clinics. Around two-thirds (67%) of the referrals were discharged from the clinics after assessment while one third (33%) needed follow up or further investigation/management.

Conclusion There has been sustained and significant increase (>30%) in the workload of paediatric cardiology services provided by the paediatricians with expertise in cardiology (PECs) over the last 5 years while managing the same workload in the joint cardiology clinics. Similarly, there continues an increasing trend in the number of new referrals to PEC clinics.

G11 ISOLATED SECUNDUM ASD (ATRIAL SEPTAL DEFECT) – SIZE MATTERS!

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Introduction Secundum ASD (Atrial Septal Defect) is a frequent often incidental finding during neonatal echocardiography. It might be associated with other congenital heart defects or can be an isolated finding. The smaller ASDs often close spontaneously and the larger ones often persists and may need surgery. The reported spontaneous closure rates for ASDs are between 14–66% in infants.

Aim To look at the outcomes and need for surgery, for different sizes of isolated secundum ASDs.

Abstracts

Methods Retrospective analysis of case notes of children presenting to the PEC (Paediatrician with expertise in cardiology) clinic following diagnosis of secundum ASD in the neonatal period between 2014 and 2019.

Results 153 cases of secundum ASDs were identified of which 133 were considered to be appropriate and 20 discarded. Of these 20 cases, five were lost to follow up, 5 were diagnosed to be PFO (Patent Foramen Ovale) and 10 had other defects or were not diagnosed in the neonatal age group.

Of the 133 cases: 93 were <3 mm, 23 were between 3–5 mm and 17 were more than 5 mm on 2D measurement on echocardiography at diagnosis.

The cases were roughly followed up every 6 monthly intervals in the PEC clinic. The closure rate noted were as follows:

Size of ASDs	<3mm	3–5mm	> 5mm
Closed at 6 month f/u	41 (45%)	0	0
Closed at 1 year f/u	45 (48%)	12 (52%)	0
Closed at 2 year f/u	7 (7%)	9 (40%)	8 (47%)
Still Open	0	2 (8%)	2 (11%)
Needed surgery	0	0	7 (41%)

Discussion Secundum ASDs are often a common finding in neonatal echocardiography. Our study showed that the majority of these were small defects (<5 mm), none of which needed surgery. Roughly 85% of these closed by 1 year and the rest closed by 2 years of age. Of the ASDs more than 5 mm in size, around half of them closed spontaneously by 2 years of age and the other half needed surgery. This study helps to inform clinicians during consultations with parents and in deciding in regards to the frequency of follow ups.

G12 EVALUATION OF PAEDIATRIC CARDIOLOGY SERVICES IN LOCAL CHILDREN'S CARDIAC CENTRES (LEVEL 3) IN THE UNITED KINGDOM

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Background The NHS 'Safe and Sustainable' programme for children's congenital heart services in the UK has put significant emphasis on providing high quality services near home whenever possible, and Local Children's Cardiac Centres remain at the heart of this model. Data on the services provided by these centres have not been collected since 2014 and consequently their current practice is unknown.

Aims To evaluate the paediatric cardiology services currently provided by Local Children's Cardiac Centres in the UK, specifically looking at:

- The availability of Paediatricians with Expertise in Cardiology (PECs)
- The frequency of PEC-led clinics, and of outreach clinics led by a visiting paediatric cardiologist from a specialist centre

Methods An online survey was sent to members of the Paediatricians with Expertise in Cardiology Special Interest Group (PECSIG) and to contacts obtained via paediatric secretaries at Local Children's Cardiac Centres. Responses from hospitals

that were not in the UK and from level 1 or 2 centres were excluded.

Results 92 responding hospitals met the inclusion criteria. The majority of these (92%, 85/92) had at least one employed PEC. Multiple PECs were present at 42% (39/92) of hospitals.

Of the 85 hospitals with PEC availability, 98% (83/85) held regular PEC-led clinics. Most (78%, 66/85) had 1 or more per week. 1% (1/85) held fewer than 1 per month and 2% (2/85) held no such clinics.

Outreach clinics led by paediatric cardiologists from specialist centres took place in 92% (85/92) of the responding hospitals. In 85% (72/85) of these hospitals, these clinics occurred at least once per month on average. In the remaining hospitals with outreach clinics, frequency ranged from 4 to 10 times per year. 8% (7/92) had no outreach clinics.

Conclusion Most surveyed hospitals have established level 3 paediatric cardiology services provided by PECs, who lead local cardiac clinics. Over 90% of the hospitals have outreach clinics led by paediatric cardiologists from specialist centres. However, there remains a significant variation in the clinical services provided across different Local Children's Cardiac Centres.

G13 TILT POSITIVE POTS (POSTURAL ORTHOSTATIC TACHYCARDIA SYNDROME): A CASE SERIES STUDY

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Introduction PoTS (postural orthostatic tachycardia syndrome) is a condition of autonomic instability which causes significant tachycardia response on upright posture. It is also associated with a plethora of symptoms which can be very disabling for the child. A tilt positive PoTS is defined as a rise of heart rate more than 40 bpm (in the 12–19 year age group) within the first 12 minutes (criteria 1) or a sustained heart rate of more than 120 beats per minute in the first 10 minutes (Criteria 2) with no hypotension or other reasons for tachycardia.

Aim To do a retrospective analysis of 20 cases presenting to the PEC (Paediatrician with expertise in cardiology) clinic with positive diagnosis of PoTS on the head up tilt test (HUTT).

Method We did a retrospective analysis of children diagnosed with tilt positive PoTS, reviewing their clinical characteristics, symptomatology, results of tilt tests, treatment and outcome.

Results Of the 20 cases, there were 5 boys and 15 girls with an average age of presentation at 12.7 years. 75% of the cases presented around 12–15 years of age. The predominant symptoms were as follows:

Symptoms	Percentage
Dizziness	100%
Headaches	90%
Syncope	55%
Abdominal Pain and Nausea	45%
Palpitations	35%
Chest Pain	10%
Difficulty in breathing	10%
Low Mood	15%
Fatigue	35%