course. The underlying decisive early-life factor is not yet known. An increasing number of studies have shown an association between eczema and skin microbiome fluctuations. Evidence has revealed an association between gut microbiome and persistence of eczema, but currently limited data are available in terms of skin microbiome.

Objectives This prospective study aimed to investigate whether skin microbiome profiles differ between patients with transient eczema and those with persistent eczema.

Methods We followed up 120 Chinese infants living in Hong Kong from childbirth to 2 years old. At 6, 12 and 24 months, participants attended clinic visits in our hospital and eczema was diagnosed based on Hanifin and Rajka criteria by paediatricians. Based on physician diagnoses, participants were further classified into transient eczema group, persistent eczema group and never eczema group. Skin microbes at left antecubital fossa (LAF) were serially sampled by flocked swabs at 1, 6 and 12 months. Skin microbiome data was later generated by 16S rRNA sequencing. A recently developed statistical method for microbiome called Analysis of Compositions of Microbiomes with Bias Correction (ANCOM-BC) was used to assess differentially abundant taxa among groups.

Results In our birth cohort, 60/119 (50%) participants are male, and 28/119 (24%) were born by caesarean section. Forty-three out of 120 (36%) participants' mothers have history of allergies. Forty-six out of 101 (46%) participants developed eczema within 6 months, and 33/97 (34%) presented with active eczema at 12 months. At 24 months, 18/100 (18%) participants still had active eczema. During the study period in total 297 skin swab samples from LAF were collected. Alpha diversity represented by Shannon and Simpson indices significantly increased from 1 month to 6 months ($p=0.001$ and $p=0.004$ respectively). Relative abundance of *Staphylococcus* and *Corynebacterium* progressively decreased from 1 month to 6 months ($\beta = -1.95$, $p<0.001$; and $\beta = -1.72$, $p<0.001$, respectively) and further to 12 months ($\beta = -1.14$, $p=0.04$; and $\beta = -1.59$, $p<0.001$, respectively). Alpha diversity did not significantly differ among groups of children with persistent eczema, transient eczema and without eczema. Besides, this study failed to detect significantly differentially abundant bacterial taxa associated with eczema persistence.

Conclusions Establishment of skin microbiome is highly dynamic in early life. Our results do not support that early-life microbiota at left antecubital fossa is associated with eczema persistence during infancy. (Funding: Health and Medical Research Fund 06170466)

Paediatric Critical Care Society

1560

AUDITING REGIONAL HDU ACTIVITY AND MONITORING

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Background In 2014 the RCPCH Report 'High Dependency Care in Children: Time to Move On' highlighted that inequity existed across the UK in how a child requiring critical care is managed.

There is evidence that not all PICU admissions are necessary. Differences in staff training, resources, funding and lack of defined Critical Care pathways contribute to regional differences in care. Safer delivery of high dependency care, outside of PICU, would benefit the patient and reduce strain on PICU capacity.

One of the reports key recommendations was to create a 'robust audit process to record how much critical care activity is being delivered, to which patients, and where'. It states that audit should include all critical care activity that occurs within the Operational Network ensuring the right patient, receives the right care, in the right place.

Objectives We aimed to collect a snapshot of critical care activity being delivered outside of our Regional PICU over a one-week period. It is hoped this would be the beginning of regular auditing.

Methods Prospective audit of Critical Care monitoring/intervention requirements over a one-week period 9/11/2020 – 15/11/2020.

Our audit used the Paediatric Critical Care Minimum Data Set (PCCMDS) to collect daily data and determine if it was level 1 or 2 critical care (CC). Total inpatient numbers were recorded (or obtained retrospectively using ward records).

Data was collected for every paediatric inpatient ward in the region, excluding PICU, and recorded by Patient Bed days for each intervention.

Results

Location	Patient bed days requiring Level 1 CC (%)	Patients bed days requiring Level 2 CC	Total receiving any CC (%)
District General Hospitals			
Ulster	16/73 (22%)	1/73 (1%)	17/73 (23%)
Antrim	3/53 (5%)	0/53	3/53 (5%)
SWAH	4/40 (10%)	0%	4/40 (10%)
Daisy Hill	13/40 (32%)	0%	13/40 (32%)
Altnagelvin	20/47 (43%)	0%	20/47 (43%)
Causeway	1/15 (7%)	1/15 (7%)	2/15 (14%)
Craigavon	12/36 (33%)	0/36	12/36 (33%)
Tertiary Hospital			
Regional Short Stay	6/32 (19%)	0/32	6/32 (19%)
Regional Neuro/NeuroSx	34/76 (45%)	6/76 (8%)	40/76 (52%)
Regional Cardiology	16/37 (43%)	8/37 (22%)	24/37 (65%)
Regional ID	5/28 (18%)	0/28	5/28 (18%)
Surgical Ward	45/100 (45%)	0/100	45/100 (45%)
Regional General	28/84 (33%)	2/84 (2%)	30/84 (36%)
Regional Haematology	0	0	0
Totals	203/706 (29%)	18/706 (3%)	221/706 (31%)

Conclusions Level 1 and 2 CC is being delivered outside PICU on a frequent basis with the Regional Speciality wards delivering a higher frequency of Level 2 care. Across the region, 31% of all patient bed days involved either Level 1 or 2 CC. All of the DGHs delivered Level 1 CC. Level 2 Care (3%) included – non-invasive ventilation (CPAP/BiPAP), NP airway, tracheostomy care, infusion of vasoactive agents, and care of EVD.

This data forms a small snapshot of activity in our region. There is little to define a 'High Dependency' patient, but the PDDMDS provides a useful tool. Regular audit would provide more information on delivery of critical care outside of PICU and allow network planning to ensure skills are appropriately maintained.

British Association of Perinatal Medicine and Neonatal Society

1563 WHEN IS IT NOT COOL TO COOL?

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Background This audit retrospectively reviewed the babies who underwent neonatal therapeutic hypothermia following delivery between April 2016 and December 2018. Current evidence indicates that moderate, induced hypothermia improves survival and neurological outcomes to 18 months of age in infants with moderate or severe perinatal asphyxial encephalopathy.

Objectives Our aim was to identify whether the appropriate TOBY criteria was applied when the decision for cooling was made. Criteria A looks at apgar scores, cord gases and resuscitation requirement. Infants meeting criteria A should be assessed for criteria B which looks at possible seizures or encephalopathy. Infants who meet both criteria A and B should be considered for cooling.

The audit also assessed patient management once the decision to cool had been made; how quickly cooling was commenced, the use of CFM monitoring and whether a HONDA score/encephalopathy examination was performed or documented.

Methods The twenty-five babies cooled during this period were identified retrospectively using coding records and each case was assessed using a proforma sheet, reviewing the patient notes.

Results 16% of infants cooled during this period did not meet criteria A and criteria B. A further 24% of infants who were cooled, had no documentation identifying whether Criteria B was met. 16% of cooled infants did not have CFM monitoring applied and 47% of those with CFM applied had no documentation of its interpretation. Overall, documentation was poor.

Conclusions In order to aid and improve decision making and documentation, we designed a flowchart for use in the patient notes.

Children's Cancer and Leukaemia Group

1564 RISING NUMBERS OF REFERRALS FOR SKIN CANCER, IS THIS ANOTHER IMPACT OF COVID-19?

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Background The two-week wait (2WW) urgent referral pathway was originally devised as a way to improve cancer outcomes through earlier diagnosis. COVID-19 has had a significant impact on healthcare including delays in cancer diagnosis and treatment. This study explores the impact of COVID-19 on paediatric 2WW referrals in the past year.

Objectives Evaluation of the impact of COVID-19 on urgent referrals via the 2WW pathway to the paediatric oncology department.

Methods A retrospective review of all referrals via the 2WW pathway between April 2020-March 2021 was performed. Information was collected from a clinic database. Details recorded include presenting symptoms, suspected diagnosis, time from referral to being seen, final diagnosis, investigations and any onward referrals generated. Any missing information was obtained from case notes.

Information about the suspected diagnosis was grouped by adapting the system in the International Classification of Childhood Cancer, Third Edition.

Results From April 2020 to March 2021 there were 88 referrals via the 2WW pathway – 51 boys and 37 girls. The majority of referrals were for children 8 years and older (n=59). All children were seen within 14 days of receiving the referral, with an average wait time of 4.3 days.

The commonest referral was for suspected skin cancer (n=39; see table 1 below for full breakdown). The most common diagnosis was benign naevus (n=21).

Only 2 children were diagnosed with cancers (1 Hodgkin lymphoma, 1 testicular). 52 were discharged with no follow up. 22 patients were kept under review. 12 children were referred on to or discussed with other specialities for non-cancer diagnoses (8 to dermatology, 3 to ophthalmology and 1 to orthopaedics) and a further 6 were investigated locally by the oncology team.

During this year there were 19 new cases of cancer diagnosed via other routes.

The total number of children seen via the 2WW pathway has increased from 8 in 2010 to over 100 children/year being referred since 2018. In the last year the number of referrals has fallen by 17%. Only 9 malignancies (1.3%) have been picked up through the 2WW referrals in these 10 years.

There has been a noticeable increase in the proportion of suspected skin cancer referrals. A consultant paediatrician has trained in dermoscopy. Between April 2014 and April 2020, presumed skin cancers (predominantly melanomas) made up

Abstract 1564 Table 1 Referrals for suspected cancer in 2021

Type of cancer	Number of referrals
Leukaemia	1
Lymphoma	12
Brain tumour	6
Neuroblastoma	-
Retinoblastoma	1
Renal tumour	-
Bone tumour	10
Soft tissue tumour	9
Testicular	2
Skin cancer	39
Breast	3
Other	5