Aims Down Syndrome (DS) is associated with increased prevalence of coeliac disease (CD). Recent meta-analysis estimates prevalence at 5.8%.1 The DS Medical Interest Group (DSMIG), does not recommend routine screening, despite guidance from the European Society of Paediatric Gastroenterology Hepatology and Nutrition (ESPGHAN).2 HLA-DQ haplotyping for CD has been offered for the last 3 years.3

Method Children with DS identified from Support Needs System (SNS). In 2016, families were invited for HLA DQ haplotyping for DQ2.2 2.5 & 8 (and coeliac serology). Subsequently, families invited though discussions in clinic. Children with positive typing are offered coeliac serology every 3 years (or sooner if symptomatic).

Results 35 (17 female/18 male) DS children were identified. (1 child excluded as already diagnosed), 28 (76%) children have been tested. 12 (39%) had negative haplotypes, excluding them from life-long screening. 16 (57%), tested positive (table 1). Mean age at testing was 7 years.

Abstract G270 Table 1 Haplotypes subtypes

<table>
<thead>
<tr>
<th>Haplotypes</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>DQ2.5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>(all heterozygous)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DQ8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DQ2.2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

5 (31%) had positive coeliac serology. Of these, 3 (60%) had CD, one from each haplotype. 2 had positive serology at initial screening with positive biopsies and 1 diagnosed when rescreened. All were clinically asymptomatic. The other 2 were both DQ2.5: 1 had negative biopsy for CD but had gastritis and 1 refused biopsy. Both are being clinically monitored.

Conclusions Prevalence of CD in DS in this area is currently 11% using HLA-DQ haplotyping and 3 yearly screening. All were asymptomatic at diagnosis and all successfully started on to gluten-free diet. DQ typing is effective in excluding DS children from ongoing screening. Positive haplotyping is effective in educating parents about potential CD and risk stratification.3 3 Three yearly coeliac serology will be performed alongside annual metabolic testing.

DQ typing can be performed at the earliest opportunity in any child prior to gluten exposure and should be a standard of care in the UK. It reduces the burden of testing for the child and the financial cost of repeated serology when symptomatic as CD is very unlikely.

REFERENCES

G272 INTENSIVE CARE ADMISSIONS IN CHILDREN WITH DOWN SYNDROME: TRENDS IN INCIDENCE AND OUTCOME
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10.1136/archdischild-2020-rcpch.235

Purpose In the first three years of life approximately 50% of children with Down Syndrome require hospitalisation. We aimed to investigate the epidemiology of admissions to Paediatric Intensive Care Units (PICU) in the UK for those with Down Syndrome, and to explore the impact of cardiac disease on admission.

Methods We obtained demographic and clinical data from PICANet, the UK national audit database, on all children admitted to PICU who had a recorded diagnosis Down Syndrome. Patients were categorised as either cardiac or non-cardiac depending on their primary admission diagnosis. We used data from the Down National Down Syndrome Cytogenetic Register to calculate the proportion of children born with Down Syndrome who were admitted to PICU.

Results Our dataset included 2791 patients with 4561 admissions to PICU. Most patients had one admission to PICU, although there was an increasing trend for readmissions. Overall PICU mortality was 4.7% in this cohort. Over the study period mortality did not significantly change. A quarter of children born with Down Syndrome were admitted to a PICU by the age of 17 months (95% CI 13 – 24 months). Half of the admissions were due to cardiac disease.

Conclusions These data will inform future planning of PICU services and counselling of parents of new-borns with Down Syndrome. If current trends continue, there will be increasing numbers of repeat admissions of children with Down Syndrome presenting with both cardiac and non-cardiac disease.

G273 EFFICACY OF NUTRITIONAL REHABILITATION CENTRE INTERVENTIONS IN TREATMENT OF SEVERE ACUTE MALNUTRITION: A ONE YEAR LONGITUDINAL HOSPITAL BASED STUDY
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10.1136/archdischild-2020-rcpch.236

Aim Primary objective: Evaluate the effect of nutritional interventions of Nutritional rehabilitation centre(NRC) in promoting the nutritional status and growth of SAM children.

Secondary objectives:
- Follow-up of the study group after discharge to check for compliance of NRC interventions among beneficiaries.
- Factors responsible for compliance/noncompliance of interventions of NRC on follow up of admitted children.

Methods
Inclusion Criteria: Age: 6–60 months
Exclusion Criteria: Secondary malnutrition due to systemic illness or chronic infection
Management was based on 3 parameters
- Medical complications
Abstracts

• Bilateral pedal edema
• Loss of appetite

If any one parameter was present the child was started with F-75 diet every 2 hours for 48 hours followed by F-100 diet every 4 hours for the next 48 hours. If none of the parameters were present children were started directly with F-100 diet, once the discharge criteria were met, discharged and followed up every fortnightly for 8 weeks.

Discharge Criteria:
• 15% Weight gain from admission weight or weight on the day free of oedema
• Absence of Bilateral Oedema for at least 10 days

Results 68 subjects were enrolled, most common age group 24–35 months, 55.9%-boys 44.1%-girls, 91.2% were term 8.8% were pre term babies. 36.8% - exclusively breastfed for 6 months. 33.8%-breastfed for less than 6 months (Avg-5.1 months) 29.4% breastfed for more than 6 months (Avg-7.8 months).

There was a statistically significant increase in the mean weight as the mean weight at admission was 8.29 ± 1.49 and at discharge was 8.72 ± 1.51 (p value < 0.001). The height at the time of admission and discharge was 81.24 ± 8.11 and 81.34 ± 8.13 respectively. There was no significant difference in mean height of patients (p value-0.676).

On 4th follow up 52 (76.4%) children had attained normal weight for height with a Z score of <-2SD. 13 children had shifted from SAM to MAM status, but three children persisted as SAM.

Conclusion NRCs had a definite positive impact on the Weight for Height Z Score of children after 4 follow ups. Reinforcement of NRC diet and close follow up is required in children who suffer from acute illnesses, to prevent reverting back to SAM.

Introduction and Aims Obstructive sleep apnoea (OSA) affects up to 5.7% of children and is associated with significant morbidity. Clinical assessment is subjective and an unreliable predictor of OSA. To date, no single parameter has been validated for predicting OSA in otherwise healthy children. The gold standard investigation in suspected OSA is polysomnography (PSG), which is labour- and resource-intensive, requires expert interpretation and can be poorly tolerated. Nocturnal oximetry studies are cost effective, widely available and well tolerated.

Delta 12s, a measure of oxygen saturation variability in oximetry studies, has been validated for the prediction of OSA in adults and in children with Down’s syndrome but has not been studied in children without co-morbidities. We aimed to demonstrate whether the delta 12s index predicts OSA in children without Down’s syndrome.

Methods We identified 500 sequential patients who underwent adeno-tonsillectomy at our centre from electronic records. Exclusion criteria were children with Down’s syndrome and those with no recorded oximetry study. It was then determined which of these children had OSA (defined as OSA diagnosed by an ENT surgeon or respiratory paediatrician, or an oxygen desaturation index ≥5). Delta 12s index derived from these children’s oximetry data was retrospectively analysed for its ability to predict OSA.

Results 155/500 children met criteria for inclusion. In this sample, 78 were determined to have OSA and 19 were not. The remaining 58 were undetermined. The relationship between Delta 12s and OSA is highly significant (p<0.001). A delta 12s index of ≥0.46 was shown to predict OSA with a sensitivity of 97% and specificity 79%.

Conclusion Delta 12s is a simple parameter that can be used by general paediatricians as a screening tool to identify symptomatic children without Down’s syndrome with a high likelihood of OSA.

REFERENCES

G274 DELTA 125 INDEX AS A SCREENING TOOL FOR OBSTRUCTIVE SLEEP APNOEA IN CHILDREN
L See, AKS McBride, M Shah, S Wilkinson, M DeKrujif, O Narayan. Paediatric Respiratory Department, Royal Manchester Children’s Hospital, Manchester, UK.

Introduction and Aims Obstructive sleep apnoea (OSA) affects up to 5.7% of children and is associated with significant morbidity. Clinical assessment is subjective and an unreliable predictor of OSA. To date, no single parameter has been validated for predicting OSA in otherwise healthy children. The gold standard investigation in suspected OSA is polysomnography (PSG), which is labour- and resource-intensive, requires expert interpretation and can be poorly tolerated. Nocturnal oximetry studies are cost effective, widely available and well tolerated.

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Conclusion Delta 12s is a simple parameter that can be used by general paediatricians as a screening tool to identify symptomatic children without Down’s syndrome with a high likelihood of OSA.

REFERENCES

G275(P) HOME OXYGEN THERAPY: A DRUG LIKE ANY OTHER
M Kamal, L Farrell, R O’Reilly. Pediatrics Respiratory Medicine, CHI Crumlin (OLCHC), Dublin, Ireland

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Home oxygen services play a vital role in supporting children with breathing difficulties with a wide variety of underlying medical conditions, many of whom will wean out of oxygen over time. However, unlike other medical prescriptions which need to be reviewed 6 monthly, oxygen continues to be supplied until the prescriber requests in writing for it to be removed. Our aim was to review oxygen prescribed in OLCHC.

Methods Air Liquide, the main supplier of oxygen services, provided a list of all children prescribed oxygen between 1/1/2010 and 31/1/2019 by OLCHC and who are currently supplied oxygen. Clinical records were reviewed for data.

Results 82 patients were prescribed oxygen over 8 years and are living all over the Republic of Ireland. Almost half (43/82) were prescribed oxygen for respiratory causes. The other causes were congenital heart disease (n=13), Trisomy 21 (n=10) and other (n=16). The median age was 3 (range 0.1–20.3) years at time of oxygen prescription. The length of time on oxygen was 2.7 (range 0.1–9) years. The main prescribers were cardiology, neonates and respiratory. 56/82 children were reviewed in OLCHC within the last 12 months.

Conclusion On review of the notes it can be difficult to assess if children are still using oxygen particularly when many are often followed up by several clinicians and/or multiple hospitals. A formal review process should be put in place for children on oxygen so it can be titrated appropriately and removed in a timely manner when no longer needed.

Discussion Any patient newly prescribed home oxygen therapy will automatically require a 6 monthly prescription as per the standard operating procedure. Improve 6 monthly prescribing of oxygen for patients. Slow introduction of 6 monthly prescribing of home oxygen to return/existing patients.