Abstract 1331 Table 1  Median laboratory results with inter-quartile range (IQR) for the first testing

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Median (IQR)</th>
<th>IQR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTH level (pmol/L)</td>
<td>3.0 (2.0-4.0)</td>
<td>4.0</td>
</tr>
<tr>
<td>25-hydroxyvitamin D level (nmol/L)</td>
<td>53.4 (42.5-64.1)</td>
<td>10.5</td>
</tr>
<tr>
<td>Ca level (mmol/L), n</td>
<td>2.51 (2.43-2.59)</td>
<td>2.5</td>
</tr>
<tr>
<td>PPO4 level (mmol/L), n</td>
<td>1.75 (1.57-1.98)</td>
<td>1.9</td>
</tr>
<tr>
<td>ALP level (U/L), n</td>
<td>585 (471-120)</td>
<td>67</td>
</tr>
</tbody>
</table>

Abstract 1331 Table 2  Numbers of patients with abnormal blood results

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Number of patients (percentage %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperparathyroidism: serum PTH (&gt;7 pmol/L)</td>
<td>23 (74%)</td>
</tr>
<tr>
<td>25-hydroxyvitamin D &lt;50 nmol/L, n = 20)</td>
<td>10 (50%)</td>
</tr>
<tr>
<td>Hypocalcaemia: Serum calcium &lt;2.5 mmol/L, n = 35)</td>
<td>3 (9%)</td>
</tr>
<tr>
<td>Hypophosphataemia: Serum PPO4 &lt;1.8 mmol/L, n = 30)</td>
<td>17 (57%)</td>
</tr>
<tr>
<td>Raised ALP &gt;500 U/L, n = 35)</td>
<td>22 (63%)</td>
</tr>
</tbody>
</table>

Conclusion
Very few preterm infants underwent PTH and/or a vitamin-D analysis, and investigated at varying ages, as part of MBD management. Significant proportion of preterm infants had secondary hyperparathyroidism (74%) and inadequate vitamin D levels (50%). These infants would benefit from oral calcium and vitamin D supplementation rather than phosphate supplementation. Further research is needed to assess the usefulness of serum PTH, vitamin D levels and role calcium supplementation in the management of MBD.

Abstract 1316 Type 1 Diabetes Mellitus: Early Diagnosis and Referral

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Aims
Around 3000 new Paediatric Diagnosis of Type 1 Diabetes Mellitus a year in the UK, with around 25% presenting in Diabetic Ketoacidosis. Prompt recognition and referral of children with suspected Diabetes is vital to prevent life threatening Diabetes Ketoacidosis and its consequences. NICE recommendations state to refer children and young people with suspected Type 1 Diabetes Mellitus immediately (on the same day) to a multidisciplinary Paediatric Diabetes team.

Our Aims were to:
- Establish the current practice in diagnosing Type 1 Diabetes in children at a District General Hospital.
- Compare the current practice to a set standard of practice by NICE and BSPED (see table 1 (Diabetes in children and young people Quality standard [QS125] Published: 14 July 2016)).
- Identify potential areas of improvements and concerns.
- Give recommendations based on the results of the study.

Methods
Population
Patients ages 16 and below who were admitted to Lincoln County Hospital and Pilgrim Hospital Boston with a new Diagnosis of Type 1 Diabetes.

Retrospective study from 01/03/2020 till 31/12/2020 with data collection done from November 2020 till January 2021. Information extracted from Patients medical notes and Questionnaire see figure 1 (Questionnaire: Early Diagnosis of Type 1 Diabetes Audit 2020, Lincoln County Hospital).

Results
Total patients included 25 (22 at Lincoln, 3 at Boston)

Age groups: 0-5 years: 2 patients 6-10 years: 6 patients, 11-16 years: 14 patients.
sex: Females 8, Males 17.
43% Presented with Diabetic Ketoacidosis and 57% were not in Diabetic Ketoacidosis.

Diagnosis of Type 1 Diabetes and Diabetic Ketoacidosis was done as per the NICE/BSPED clinical guidelines.
- Duration of symptoms before presenting to GP or A&E were between 2 days and 6 weeks.
- Delay in review by GP in 12%.
- Delay in referral to Paediatric team in 8%.

Reasons for delay were:
- One patient with glycosuria was treated for UTI and had a delay in referral to the Paediatric team of 2 weeks.
- Awaiting negative Covid screen results, average delay of 3 days till GP review.
- GP arranged bloods as Out Patient, with no referral to Paediatric team on the same day.

Conclusion
Diagnosis was delayed by >24 h (median 3.0 days, range 1-14 days) in 20% (8)

Our recommendations
Abstracts

1. Make sure every child with suspected Type 1 Diabetes Mellitus gets referred for as assessment on the same day by a Paediatric team.

2. To add the requirement of referral on the same day to GP referral system.

3 Educational Activities and training for GP and Paediatric teams to improve awareness. Feedback in case of delayed referral.

4. If bloods are booked at GP surgery an electronic alert system for same day referral to Paediatric teams.

REFERENCES

1. Diabetes type 1 and 2 in children and young people: Diagnosis and management. NICE guideline (NG18) 1st published 2015, Updated December 2020.


UNEXPECTEDLY SEVERE HYPERTRIGLYCERIDEMIA

SkoRami Reddy Alladu Venkata, Sami Khan, Shimaan Anwar. Royal Glamorgan Hospital

Aims Triglycerides (TG) levels of >1000mg/dl (56mmol/l) are considered severe HTG. It is important to recognise the growing problem of HTG in children and the acute management.

Methods We report a case of a teenager with initially well controlled DM. His control state has been deteriorated followed by subsequent development of severe hypertriglyceridemia. We described the acute management with intravenous (IV) insulin and fluids, long term management with dietary changes and a lipid regulating medications.

Results Following intensive dietetic regimen, the BMI reduced to 36 with significant control for the blood pressure in June 2021. However, the TG level raised to 7.1mmol/l with further reduction in HDL 0.9mmol/l and significant elevation in HbA1c 77.

On assessment in July 2021, he complained of polydipsia. Random TG level was 79mmol/l (confirmed on a fasting sample), HDL 0.2mmol/l and serum glucose 18mmol/l. Serum amylase was documented as normal. Further laboratory tests were not suitable for analysis due to hyperlipidaemia.

He was admitted for monitoring and urgent treatment of extremely high triglycerides level. Following discussion with Adult Physicians and Tertiary Paediatric Endocrinologists emergency management commenced with:

1. IV maintenance fluids (5% dextrose/0.9% saline)
2. Nil by mouth
3. IV insulin (sliding scale protocol)
4. There was a rapid and dramatic reduction in the TG level.

Conclusion Acute hypertriglyceridemia is defined as TG of >55 mmol/l, it is a medical emergency and associated with life threatening complications including acute pancreatitis, thrombosis and cardiovascular disease.

This patient had several risk factors for developing cardiovascular disease including male sex, obesity, elevated TG level, hypertension and DM.

As the incidence of diabetes and obesity in children are increasing the General Paediatrician should be well versed in identifying and managing these complications rarely seen previously in the paediatric population.

The increase in HbA1c from 48 to 77 within 3 months along with the exponentially increasing triglycerides level is unusual and unexplained in this patient. This case has made us ponder if there was any underlying cause for this acute rise in triglycerides.

1348 EXPLORING DIFFERENCES IN BRAIN PERFUSION USING ARTERIAL SPIN LABELLING IN PATIENTS WITH CHILDHOOD CRANIOPHARYNGIOMA

Aims Cranioopharyngioma (CP) is a rare and benign suprasellar tumour with significant long-term sequel like obesity. There is poor understanding around the pathophysiology underpinning this weight gain, which may be linked to hypothalamic damage. One of the aims of this pilot, feasibility study was to investigate the downstream effect of CP on brain perfusion by using arterial spin labelling (ASL) as an indirect measure of neural metabolic activity in young people with CP.

Methods Nine participants with CP (mean age = 14.6 ± 3.8y; mean BMI SDS = 0.97 ± 1.93) and nine sex matched controls (mean age = 22.4 ± 2.6y; mean BMI SDS = -0.60 ± 0.88) underwent two fasted, functional magnetic resonance imaging scans: one high resolution structural T1-weighted scan and one pseudo-Continuous ASL scan (pCASL) with multiple post-labelling delays. Data was processed with BASIL and analysed with RANDOMISE. Correlations between BMI SDS and brain perfusion were processed using Kendall’s tau analysis.

Results Preliminary evidence shows greater perfusion in six of the seven priori regions of interest (ROI) (hypothalamus, insula, amygdala, nucleus accumbens, putamen and ventrofrontal cortex) in the control group compared to the CP participants (p<0.01). No difference was found in the temporal occipital fusiform cortex: the only ROI not associated with food reward processing. No significant correlations (p<0.01) were found between BMI SDS and brain perfusion in the above regions within the two groups.

Conclusion These preliminary findings suggest there is reduced neural metabolic activity within and beyond the hypothalamus in those with CP. This is a shift from current literature which focuses primarily on the role of the hypothalamus. The findings have implications for the role of food reward processing within the pathophysiology behind CP-related obesity. There is need for further analysis to contextualise these results to determine this relationship with eating behaviour and obesity.

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