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.


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

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. 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. 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 amylose 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)

There was a rapid and dramatic reduction in the TG level. 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.

**REFERENCES**

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

**Abstracts**

**1353 UNEXPECTEDLY SEVERE HYPERTRIGLYCERIDEMIA**

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**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 amylose 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)

- 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.

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

**Aims**

- Craniopharyngioma (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= 0.97 ± 1.93) were included. 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).

**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.