Hypoglycaemia in Adults in Primary Care

Definition

Hypoglycaemia can only be diagnosed if Whipple's Triad criteria are met:

- Plasma Glucose <2.6 mmol/L
- Neuroglycopaenic symptoms
- Relief by treatment with glucose

Note it is common for young women to have Blood Glucose 2.2 – 3.0mmol/L without symptoms or pathology.

Symptoms and Signs

Hypoglycaemia: Hunger, lethargy, blurred vision, sweating, tachycardia, tremor, dizziness or feeling faint. Followed by a change in behaviour, agitation, seizures and coma.
Chronic hypoglycaemia: Memory loss and change in personality.

Key features of insulinomas and fasting hypoglycaemia are:
Eating alleviates the symptoms, they do not only occur after meals, and can often be at night so patients may wake up unrefreshed. They may also have put on weight due to excessive eating to avoid the symptoms.

Causes

Reactive Hypoglycaemia
•Drug induced – insulin, oral hypoglycaemics, alcohol
•Post prandial – idiopathic, post gastric surgery

Fasting Hypoglycaemia
•Insulinoma
•Organ failure – chronic liver disease, chronic renal failure, CCF
•Sepsis
•Starvation – anorexia nervosa
•Inborn errors of metabolism
•Endocrine – Hypoadrenalism and Pituitary Failure.

Investigations

Investigations are usually not required if taking hypoglycaemic agents.

Spontaneous hypoglycaemia
If the patient is seen at the time of hypoglycaemia, it is essential to take a laboratory sample for glucose to confirm or refute the diagnosis.

Send a grey (fluoride) tube to the laboratory. Do not use a point of care glucose meter as these can be unreliable.

Baseline tests
FBC (EDTA tube), U&E, LFT, Calcium, TFT, 9am Cortisol

Provoked hypoglycaemia
If the patient is never seen during the episodes but hypoglycaemia is reported it will be necessary to refer the patient to endocrine in order to try and provoke the hypoglycaemia. This is usually via a mixed meal test or admitting the patient after an overnight fast or for prolonged 48 – 72 hr fast.
If there is an episode of suspected hypoglycaemia, a glucose sample (fluoride) should be sent to the lab paired with serum for insulin and c peptide. These need to be sent urgently to the lab on ICE therefore are not available in the community although results a can be accessed via ICE Open Net. If the glucose is confirmed as being <2.6mmol/L the insulin and c peptide will be sent for testing.

Other tests they may send are:
Urine drug screen (20mls plain sample), sulphonylurea (serum sample)

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