Pre-referral investigations

Approximately 80% of all endocrine referrals in secondary care involve a dozen or so common themes, seen reasonably often in primary care for which some pre-investigation may be performed. Although it is desirable to have appropriate investigations prior to referral, this may not be feasible with GP workload, lack of certainty over appropriate testing or lack of access to certain tests.

Presentation
Hypoglycaemia

Note
True hypoglycaemia outside the context of diabetes treatments is uncommon.
Remember Whipple's Triad criteria of hypoglycaemia:

1. Plasma glucose < 2.2 mmol/L,
2. Neuroglycopenia symptoms – note: patients with insulinoma can have hypoglycaemia unawareness
3. Resolution/reversal of symptoms on treatment and normalisation of glucose level.

Typically, hypoglycaemia can be fasting (> 5hours post meal) or post prandial.

Useful points to cover in history:

- Drug induced is commonest cause so ensure full review of medication e.g., insulin or insulin secretagogue, alcohol, quinine,
- Reactive hypoglyaemia
- Previous gastric surgery, surgery for management of obesity
- History of starvation, eating disorders
- Inborn errors of metabolism
- Endocrine causes- hypoadrenalism and pituitary failure, insulinoma, reactive hypoglycaemia

Useful questions:

- Do you notice any symptoms? When do they start?
  - Hypoglycemia unawareness
- How long have symptoms been going on
- Describe an 'episode'
- Any LOC/blackouts
- Any weight gain or change in eating habits
- Are they worse first thing in morning, before meals?
- Are they exacerbated by exercise, alcohol?
  - Jelly babies when taking dog for walk?
- How are these relieved?
- How long does it take to feel better?
- Any FH inc kidney stones, calcium/pancreas/pituitary issues

First line investigations

- Exclude intercurrent contributing organ failure (renal or liver failure) or critical illness/infection- renal function, liver function, full blood count, thyroid function, calcium.
- Weight height BMI calculation.

- Consider risk of adrenal insufficiency (Addison's disease) – 9 am cortisol < 150 nmol/L urgent discussions with local team.
- If frequent or predictable episodes or red flag signs such a loss of consciousness refer to secondary care

Please note capillary blood glucose meters are unreliable for low blood glucose concentrations, therefore we do not routinely recommend issuing these to patients. Your local trust may have a policy on if they should be considered given the clinical context.

Second line investigations (could be facilitated by secondary care local agreement)

- 9am cortisol and ACTH or short synacthen test if Addison's disease considered a possible diagnosis

Actions

Address any abnormality identified as appropriate

Referral to endocrinology if

Documented blood glucose <2.5mmol/l or red flag symptoms in history (see below) suggestive of insulinoma, significant reactive hypoglycaemia

Key information to include

Relevant history as described above
Blood work up and any second line investigations

Consider referral to other services if

Ongoing primary care concern about presentation hypoglycaemia excluded

Red flags to prompt urgent referral

Confusion/neurological compromise, fits/seizures proven or suspected to be related to low lab blood glucose.