think PEI
Optimising Management of Pancreatic Exocrine Insufficiency

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Diabetes and pancreatic exocrine insufficiency (PEI): A case study

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PRESENTING CASE

54-year-old male, diagnosed with type 2 diabetes for 6 years

Weight 81 kg; BMI 30 kg/m^2; no recent weight loss

HbA_{1c} 72 mmol/mol and has ranged from 61 to 84 mmol/mol since diagnosis with erratic daily glycaemic control, frequent hypoglycaemia and postprandial hyperglycaemia (levels ranging from 3.1 mmol/L to 22.6 mmol/L across the day)

Current medication:

- Metformin MR 1 g twice daily
- Dapagliflozin 10 mg daily
- Long-acting analogue insulin 28 units pre-bed
- NovoRapid 14 units with evening meal

Current smoker

Social drinker, having 18 units weekly consumed Friday to Sunday; no drinking in the week owing to need to commute by car to work

PRESENTING PROBLEMS

Referred because glycaemic control was suboptimal with frequent hypoglycaemia

On discussion, had good hypo awareness, but could find no establishing cause for hypos

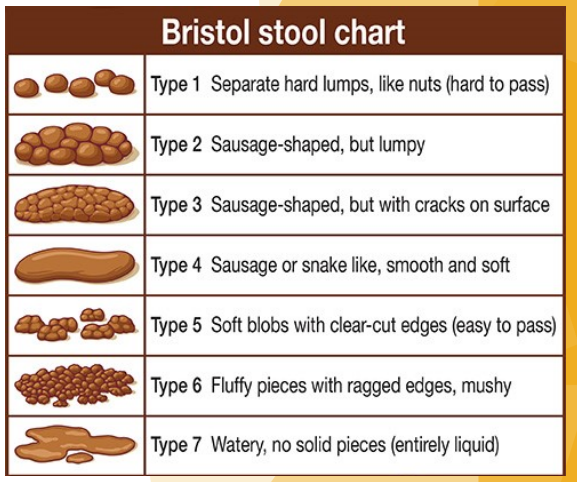
Also complained of post-meal high glucose levels despite taking NovoRapid with main carbohydrate meal

Reluctant to start injecting at all meals owing to inconvenience and car travel to work.

On further discussion, complained of abdominal bloating and frequent episodes of diarrhoea and flatulence

When reported previously, had always been linked to metformin; the patient had noticed, however, that symptoms did not go away when he stopped metformin for periods of time

Use of Bristol stool chart highlighted frequent stools of 5 and 6 on the chart



ASSESSMENT

Full range of blood tests to exclude other cause:

- FBC
- U&Es
- LFTs
- HbA_{1c}
- TSH
- Calcium
- Vit D

Stool samples for:

- Faecal elastase level
- Culture
- Faecal occult blood

All blood results unremarkable but first faecal elastase result 202 µg/g

This was repeated and the second result was 189 µg/g, which, along with symptoms, confirmed a diagnosis of PEI

TREATMENT

- PERT was started at 50,000 units with meals and 25,000 units with all snacks
- The patient was advised to continue with glucose monitoring and to reduce insulin doses by 20% if glucose levels showed regular reduction from current levels
- The patient was advised to stop smoking and referred to smoking cessation group
- The patient was also advised to reduce alcohol intake

RESULTS

- Abdominal symptoms improved dramatically
- Stools were still loose on occasion so PERT was increased to 100,000 units with meals and 50,000 units with snacks; this then normalised stool consistency
- Daily glucose variation settled to ranging from 4 to 9 mmol/L across the day with occasional readings of 11 mmol/L post-meal
- HbA_{1c} reduced by 10 mmol/mol to 62 mmol/mol
- There was slight weight gain (2 kg) over a 6-month period