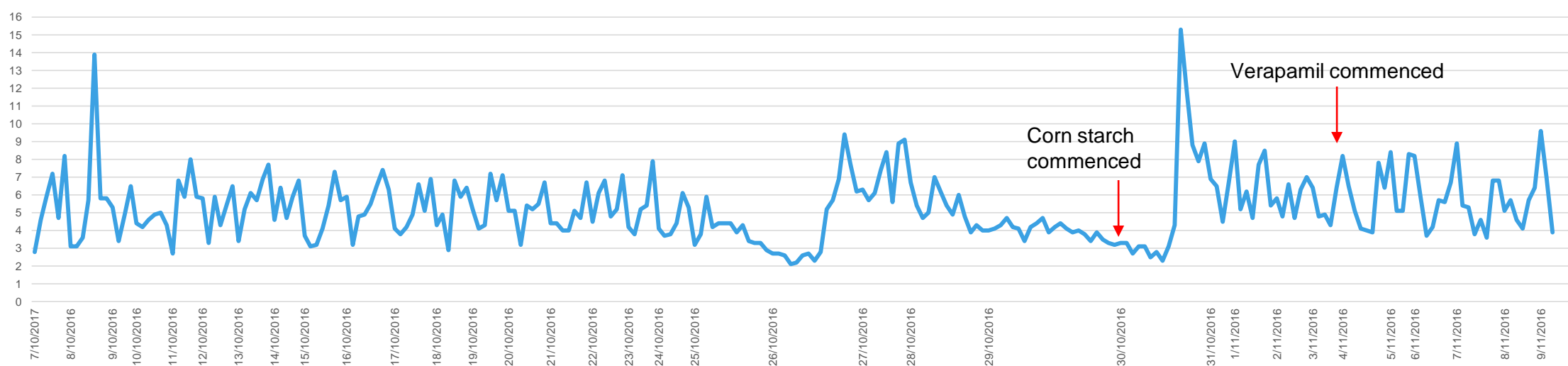


Persistent Hypoglycaemia Secondary to Infliximab Treated with Verapamil

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Figure 1. Blood sugar levels during admission



Objective

We describe a case of persistent hypoglycaemia secondary to infliximab, treated with verapamil and corn starch.

Clinical Features

A 63-year-old Caucasian female was transferred to the rehabilitation ward at a metropolitan hospital with sacral-alar insufficiency fracture.

Past medical history included:

- diet-controlled type two diabetes mellitus
- atrial fibrillation
- Crohn's Disease
- rheumatoid arthritis
- hypertension
- hypothyroidism

A month prior to the admission, the patient was given induction Remicade® infliximab of 500mg at zero, two and six weeks apart for treatment of her Crohn's disease.

During admission

- Patient experiences multiple hypoglycaemic events
- Lowest blood sugar level (BSL) recorded is 2.7mmol/L

Day 18

- Patient transferred to acute ward under endocrinology for formal prolonged fasting blood glucose test
- Test fails due to haemolysis of samples

Day 24

- Started on starch therapy, three times a day with meals; total of 173g carbohydrates in 24 hours
- This raises BSLs to 4.0mmol/L

Day 36

- CT of pancreas ordered
- Insulinoma or other abnormalities excluded
- Patient experiences another hypoglycaemic episode (BSLs 2.9mmol/L)
- Started on verapamil 80mg nocte
- Prednisolone changed to 2.5mg BD

Day 42

- BSLs stabilised (4.1-5.7mmol/L)
- Patient discharged with endocrinology outpatient follow up

In the absence of other causes, infliximab was suspected to be contributing to the patients persistently low BSLs. On discussion with patient's private gastroenterologist, infliximab was ceased.

Discussion:

Infliximab is a TNF- α antagonist indicated for the treatment of a number of autoimmune disorders. TNF- α antagonists can cause a myriad of adverse effects, ranging from nausea and vomiting, to myalgia and arthralgia. More serious adverse effects include demyelination and interstitial lung disease. To our knowledge, this is one of the few documented case reports of infliximab causing persistent hypoglycaemia.

Currently, there is little published evidence supporting the use of verapamil in hypoglycaemia, with only a handful of case studies, and low grade evidence available. It is known that insulin release from the pancreas, as well as from insulinomas, is mediated by calcium channels. Theoretically, by blocking calcium channels, insulin release is reduced, and therefore reduces the frequency of hypoglycaemic events.

Implications for practice:

This case study demonstrated that infliximab induced hypoglycaemia can be successfully treated with the combination of verapamil and corn starch therapy.

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Table 1. List of preadmission and discharge medications

Drug Name	Preadmission	Discharge
Pantoprazole	40mg mane	40mg mane
Prednisolone	5mg daily	2.5mg BD
Hydroxychloroquine	200mg BD	200mg BD
Sertraline	50mg mane	50mg mane
Thyroxine	50 microg mane	50 microg mane
Spirolactone	25mg mane	Ceased
Warfarin (Coumadin)	1.5mg daily	2.5mg daily
Fruzemide	20mg mane	40mg mane
Perindopril	2.5mg mane	Ceased
Verapamil		80mg nocte