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Abstract #1176119

**Development of New Onset, Protracted Hyperglycemia Triggered by COVID-19 Vaccination with Ultimate Resolution in an Individual without Prior Dysglycemia**

**Author Block:** Johanna Gerwer, MD MPH - University of California, San Diego: Division of Endocrinology, Diabetes & Metabolism; Karen McCowen, MD MRCPI - University of California, San Diego: Division of Endocrinology, Diabetes & Metabolism

**Introduction:** Frequently, endocrinologists are asked for advice on COVID-19 vaccination. For patients with diabetes, promoting vaccination against COVID-19 is critical; research has shown a significantly increased risk of severe infection in these patients.

Notably, there appears to be a physiological connection between COVID-19 infection and hyperglycemia. There have been multiple cases of patients developing hyperglycemia after contracting COVID-19. In contrast, there are few reported cases of new onset hyperglycemia developing after the COVID-19 vaccination.

**Case Description:** We present the case of a 63-year-old woman with no significant past medical history. She maintained a healthy lifestyle and stable weight for several decades (BMI 24.3).

She received her first dose of the Pfizer COVID-19 vaccination in December 2020. Frequent workplace testing (weekly, between 12/4/20 and 2/12/21) documented no evidence of COVID-19 infection, and no symptoms of COVID-19 had occurred at any time before or after immunization.

Four days post-vaccination, she developed significant polyuria and polydipsia, but accepted a second dose 3 weeks later.

The patient’s symptoms persisted for months and were accompanied by weight loss. Five months later, she finally sought medical attention. Her HbA1c and serum glucose were elevated (12.9% and 295 mg/dL, respectively).

At her endocrinology appointment in May 2021, BMI was 22.4, consistent with her reported weight loss of 1 pound per week. Metformin (500 mg twice per day) and sitagliptin (100 mg per day) were prescribed and a low-carbohydrate diet was recommended.

One week later, with fasting blood glucose between 114 - 188 mg/dL, sitagliptin was discontinued. The next week, fasting blood glucose between 71 - 95 mg/dL allowed metformin discontinuation.

In September 2021, she reported continued weight loss (BMI 20.2), attributed to the low-carbohydrate diet. After 2 months off medication, both fasting and postprandial blood glucose were < 100 mg/dL. HbA1c (5.1%), C-peptide (1.1 ng/mL), and serum glucose (90 mg/dL) were all normal. She remains normoglycemic without medication.

**Discussion:** There have been several reports of new-onset diabetes following COVID-19 vaccination. However, to date, we identified no published case reporting complete resolution of diabetes. We hypothesize that immune changes resulting from her COVID vaccine were associated with increases in inflammatory markers causing temporary beta cell toxicity. It is unclear what the impact of a booster will be on her glycemic control, therefore we recommend she remain vigilant for symptoms of hyperglycemia after getting her third dose.

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Abstract #1177032

**A Rare Presentation of Hypoglycemia After Pancreas-Kidney Transplant**

**Author Block:** Daniel Toft, Associate Professor - University of Illinois at Chicago

**Introduction:** Hypoglycemia as a complication of pancreas transplant has frequently been reported and is a common finding occurring up to 30-50% of pancreas transplant recipients. We report a case of hypoglycemia after simultaneous pancreas and kidney transplant which was secondary to dumping syndrome.

**Case Description:** A 49-year-old female with history significant for hypothyroidism, type 1 diabetes mellitus s/p pancreas-kidney transplant in 2008, was being seen for recurrent episodes of hypoglycemia over the last ten years. She initially presented only with subjective episodes of hypoglycemia, which used to be associated with significant diarrhea, and occurred once a month. An extensive workup for chronic diarrhea was unrevealing — small bowel biopsies were not suggestive of any pathology and anti-gliadin and tissue transglutaminase antibodies were negative. In the past, she had been on mycophenolate, octreotide, codeine and loperamide. She continued to take loperamide as needed and would have diarrhea 1-2 times per week. She described worsening symptoms with a high carb/fat diet. Her weight had been stable at 50kgs (BMI: 20.4kg/m2), and she denied skin flushing. There was concern for dumping syndrome. Since her symptoms were well controlled on PRN loperamide, she was advised to eat small low carb meals with substitution of simple CHO with complex CHO.

She then recently began to have profound hypoglycemia. She described a few episodes of severe postprandial hypoglycemia with loss of consciousness associated with significant diarrhea. Her blood glucose had dropped to as low as 33, and EMS was called. She also endorsed difficulty with gaining weight. Home medications included tacrolimus, bactrim, levothyroxine and loperamide. Lab results of note include A1c of 5.5% (RR: < 5.7%), c-peptide level of 1 ng/ml (RR: 0.5-3.3 ng/ml) with a serum glucose of 112 mg/dL and normal kidney function and thyroid function test. She did not develop hypoglycemia during a 72 hour fast. A diagnostic continuous glucose monitor was used to confirm postprandial hypoglycemia. She was started on Acarbose 25 mg with meals and her symptoms of hypoglycemia resolved.

**Discussion:** This case highlights a rare presentation of hypoglycemia after pancreas transplant. Reactive hypoglycemia in these patients may be attributed to increased insulin sensitivity after transplant, peripheral hyperinsulinemia due to vascular drainage of pancreas graft into systemic circulation rather than portal circulation, counterregulatory hormone abnormalities, and dysregulated islet growth. But our patient’s symptoms were consistent with dumping syndrome as the cause of hypoglycemia, which has not been reported in the literature.

During pancreas transplantation, the donor pancreas is retrieved en bloc with the duodenum, which is transected and stapled proximally just beyond the pylorus and distally in the third part of the duodenum. Dumping syndrome is related to changes in gastric anatomy after esophageal, gastric and bariatric surgery resulting in rapid passage of food into the small intestine, but these anatomical changes are not usually seen during pancreas transplantation.

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