Eleanor Cramer, J Diabetes Metab 2017, 8:8 (Suppl)
DOI:10.4172/2155-6156-C1-070

Ketosis prone diabetes- A clinical view

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Introduction: Ketosis Prone Type 2 Diabetes (KPD) is also known as "Flatbush Diabetes", due to the cluster of patients identified in the Flatbush section of Brooklyn, NY with new onset of type 2 diabetes accompanied by Diabetic Ketoacidosis (DKA) as the first manifestation. These patients have an absence (A-) or presence (A+) of islet cell autoantibodies and quantitive differences in beta cell function. The A-B+ is the most frequent manifestation. These patient's parameters resemble type 2 diabetes, in that it usually occurs in the adult population, they are overweight or obese, a strong family history of type 2 diabetes, do not have islet cell autoantibodies, and have a plentiful reserve of pancreatic beta cells, which have been measured after the "index" case of KPD. They may also have physical signs such as acanthosis nigricans and abdominal straie. They have an unprovoked episode of diabetic ketoacidosis (DKA), and may have blurred vision, nausea, vomiting or abdominal pain, which bring them to the emergency department. They may also have polyuria resulting in dehydration secondary to blood glucose numbers far in excess of type 1 diabetics. Treatment is the same as for any DKA patient, and they usually are treated with a basal/bolus regimen, along with metformin, which is increased as tolerated. They generally have rapid beta cell recovery and many eventually stay on metformin as a preventative measure; some require only lifestyle modifications. This holiday period may last from months to years. The most common subtype of KPD is A- B+ (54%).

Case: 33-year-old African American woman, With a BMI of 42 mg/kg m2, G 6, P 2. Her children are aged 15 and 5. She had little prenatal care with her first child, and at time of labor she was found to have gestational diabetes (GDM). She was started on basal bolus insulin with levemir and lispro, which was continued post-partum, but eventually eliminated over the course of several months, and she did not require metformin. She was carefully followed with the second child, and was treaded with insulin throughout her pregnancy, and discontinued in the immediate post-partum period. In the five years since, she has had no recurrence of diabetes, until this DKA event. No precipitating cause, such as infection, increased stress or steroid use was identified. She had a blood glucose more 700 mg/dL, and a HBA1c of 13%. She responded rapidly to insulin and rehydration, and was weaned from insulin to metformin, and finally just diet control over the next three months. One year later she still has not had a recurrence of DKA or evidence of persistent diabetes, with decrease of HBA1c to high normal range.

Discussion: This case is a good example of the need for identification of presence or absence of autoantibodies in a younger patient who presents in DKA who could quite possibly have type 1 diabetes. It also shows that with careful monitoring and titration, medication can be temporary for a significant amount of time. This patient had the desire for another pregnancy, and was referred to high risk OB care to reinforce the need for keeping with her diet to lose weight and to decrease her HBA1c to prepare her body for pregnancy and prevent the known teratogenic effects of hyperglycemia to the developing fetus. than

Biography

Eleanor Cramer is a family nurse practitioner (FNP) who spent the last three semesters as a Doctor of Nursing Practice student (DNP) in the Endocrine Department at a metropolitan academic medical center in New York, NY. She collaborates with a DNP certified diabetic educator and an attending endocrinologist as a consultant for endocrine services for the adult population. The endocrine team covers consultations throughout the hospital and outpatient setting. She is a DNP candidate for October 2017 at Columbia University in New York, NY. She also received her Master of Science degree in Nursing as a Family Nurse Practitioner from Columbia, and is ANCC certified. She completed her Bachelor of Science in Nursing at Villanova University, Villanova, PA, after graduating from St. Joseph's Hospital School of Nursing, Reading Pennsylvania. Prior to becoming an FNP, she spent 37 years as a critical care nurse, working in various critical care settings.

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