Fulminant Type 1 Diabetes Mellitus in the Second Trimester of Pregnancy: A Case Report

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Introduction: Fulminant type 1 diabetes mellitus (FT1DM) is a life-threatening type of diabetes characterized by sudden onset of severe hyperglycemia, ketosis with rapid destruction of pancreatic β-cells. Urgent diagnosis and management of FT1DM during pregnancy are necessary to prevent maternal and fetal complications.

Case report: A 37-year-old pregnant woman at 26 weeks' gestation presented to the emergency room with epigastric pain. She had no significant past medical history. She had a fever of 38.7°C. Amylase and lipase levels were elevated to 2518.3 U/L and 1539 U/L, respectively. Abdominal ultrasound showed diffuse pancreatic swelling, consistent with possible acute pancreatitis without biliary stones. Initial glucose level was 48 mg/dL. She was admitted to the obstetrics department for management of acute pancreatitis, with ongoing hydration and observation. Blood glucose levels rapidly increased to over 300 mg/dL with fetal distress, and continuous intravenous insulin was started. Emergency cesarean section was planned, but fetal death in utero was confirmed. She developed with tachycardia, tachypnea, and ketoacidosis with a pH of 7.06. She was transferred to the ICU, where her acidosis improved with insulin therapy, and termination was performed. MRCP imaging showed no evidence of biliary stones. HbA1c was 4.6%, and glycoalbumin was 13.4%. Otherwise, GAD II and anti-insulin autoantibodies were negative, and a glucagon stimulation test showed C-peptide at 0.02 ng/mL. HLA-DR typing showed DRB1*15 positivity. Amylase and lipase levels and abdominal pain improved, and she was discharged on multiple daily insulin injections. She continues to be followed up on an outpatient basis.

Discussion: FT1DM in pregnancy is characterized by a typical pattern of onset in the third trimester of pregnancy or shortly after delivery. We present a case of FT1DM in a second trimester pregnant woman who developed acute pancreatitis, hyperglycemia, and intrauterine fetal death. This case highlights the importance of considering FT1DM as a potential diagnosis in patients with sudden hyperglycemia with ketoacidosis but low HbA1c level in the second trimester of pregnancy.