CASE REPORT

Diabetic ketoacidosis in a thalassemia major patient with secondary hemochromatosis

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ABSTRACT

Background: Diabetic ketoacidosis (DKA) is a life-threatening acute hyperglycemic complication of diabetes mellitus. Thalassemia major predisposes to diabetes mellitus due to pancreatic dysfunction from iron overload, yet DKA is uncommon in these patients.

We report the case of an 18-year-old female with thalassemia major and secondary hemochromatosis who presented with acute shortness of breath, drowsiness, and confusion following one day of diarrhea. On examination, she was profoundly hypotensive (BP 54/21 mmHg), tachycardic (PR 131 bpm), hypoxic (SpO_2 89%), and exhibited acidotic breathing, pallor, bronze skin pigmentation, and cold extremities. Laboratory evaluation revealed severe anemia, marked leukocytosis (>30,000/mm^3), metabolic acidosis with hypokalemia, hyperglycemia, and markedly elevated ferritin (>1,650 ng/l). The patient was treated with insulin infusion, electrolyte correction, blood transfusion, iron chelation therapy, and supportive measures. She improved clinically, achieved metabolic stabilization, and was discharged in stable condition. This case underscores that thalassemia-related iron overload can precipitate disturbances in glucose metabolism and rarely present with DKA. Continuous monitoring of glycemic status is essential in thalassemia patients, even when baseline glucose levels are normal, to enable early detection and management of acute metabolic complications.

Keywords: Diabetic ketoacidosis, thalassemia Major, secondary hemochromatosis, iron chelation therapy.

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