

Diabetic Ketoacidosis Revealing Acute Intestinal Intussusception in an Adult

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Summary:

Diabetic ketoacidosis is a major cause of morbidity and hospitalization in Morocco and worldwide. It is most often secondary to an aggression of the organism or a lack of insulin supply. We report here on a rare etiology of acid-ketotic decompensation: acute intestinal intussusception. Treatment is surgical with disinvagination, rehydration, insulin therapy and potassium supplementation.

Introduction:

We report the case of a 25-year-old man with type 1 diabetes who presented to the emergency department for diffuse abdominal pain with nausea and vomiting, which are common between diabetic ketoacidosis and acute intestinal intussusception. This case is interesting because it highlights a rare etiology of diabetic ketoacidosis, and the limitations of abdominal ultrasound in the management of diabetic ketoacidosis.

Medical observation:

Mr. S. R., 25 years old, type 1 diabetic since the age of 14 on insulin, smoker 5 years BP, chronic alcoholic weaned 9 months ago, presented to the emergency room with a picture of acid-ketotic decompensation of his diabetes with polyuro-polydispsic syndrome, diffuse abdominal pain associated with nausea and vomiting, without cessation of matter or gas. Clinical examination on admission revealed a patient conscious 15/15, BP= 100/50 mmHg, tachycardic at 123 bpm, polypneic at 30 cycles per minute with SpO₂ in free air 95%. Capillary glucose was "High", urine dipstick was 3 crosses of ketones. The patient was apyretic at 37.2°C. Pleuropulmonary and cardiovascular auscultation were unremarkable. Abdominal examination revealed diffuse abdominal tenderness, the hernial orifices were free and the rectal examination was unremarkable.

Gasometry showed pH 7.38, PaO₂ 90 mmHg, PaCO₂ 37, HCO₃⁻ 15. Biological profile: hemoglobin 13 g/dl, white blood cells 10,560/mm³, platelets 245,000/mm³, good hemostasis. Renal and hepatic function were normal, natraemia 139 mmol/l, kalaemia 3.3 mmol/l, CRP 78 mg/L. The rest of the laboratory work-up was normal. Abdominal ultrasound showed a simple renal cyst with no other associated abnormalities. An ECBU was initiated, and on ECG the rhythm was regular and sinus at 95 bpm, fixed PR at 0.12 QRS are fine, with no secondary repolarization disorders. Initial management was based on placement of two 18G venous lines for rehydration with Ringer Lactate, combined with insulin therapy in a self-propelled syringe with a dose of 0.01 IU/kg/h. Persistent abdominal pain after 6 hours of treatment prompted an abdominopelvic CT scan, which revealed intestinal jejuno-jejunal intussusception with dilatation of the upstream jejunal loop measured at 34 mm in maximum diameter, the rest being without anomalies. An exploratory laparotomy was indicated, revealing a jejuno-jejunal intestinal invagination with incipient ischemia of the digestive wall at the distal end. Anastomotic resection was performed with 24-hour digestive rest and continued insulin therapy, rehydration and central potassium supplementation. The evolution was marked by normalization of glycemic figures with a negative urine dipstick after 4 days of treatment. The patient was subsequently transferred to the visceral surgery department for an etiological diagnosis of his intestinal intussusception.

Discussion:

Acute intestinal intussusception in adults is a rare condition, accounting for only 5% of acute intestinal intussusceptions and less than 1% of occlusive syndromes. It is defined by the penetration of an intestinal segment into the segment immediately downstream. Its preferred site is the ileum, more rarely the colon. It progresses subacutely or even chronically. Clinically, symptoms are absolutely non-specific, with intermittent pain, nausea and vomiting, and a poor clinical examination. Unlike in children, it very often reveals an underlying organic cause. In younger patients, the cause is usually benign: lipoma, Meckel's diverticulum, polyps, adenopathies and, more rarely, malignant pathology such as digestive lymphoma. In the elderly, carcinological pathology predominates, in

particular colonic adenocarcinoma, carcinoids and lymphomas. In adults, intussusception is rarely idiopathic (8-20% of cases). In adults, abdominal ultrasonography is not the gold standard; however, it may reveal the typical cocardial image, or even the causal lesion. Abdominal-pelvic CT remains the examination of choice. Here, we report a case of acid-ketotic decompensation in a type 1 diabetic patient revealing acute intestinal intussusception, which can be explained by inflammation and increased secretion of hyperglycemic hormones (cortisol, adrenalin), dehydration caused by nausea and vomiting, and finally by the patient's reduced insulin intake to compensate for reduced food intake and avoid hypoglycemia. However, acute intestinal intussusception in adults is a difficult diagnosis to make in the presence of acute abdominal pain. In this case, it is even more difficult, as the clinician may wrongly link this clinical picture to diabetic ketoacidosis. As in all cases of diabetic ketoacidosis, treatment is based on insulin therapy using a self-propelled syringe with a dose of 0.01 IU/Kg/h, and rehydration with crystalloids. Glycemia below 2.5 should be accompanied by G5 infusion, with the insulin infusion rate reduced by 50%. Etiological treatment of intestinal intussusception is based on surgical exploration with simple disinvagination if there are no signs of intestinal distress, otherwise anastomotic resection with 24-hour digestive rest. Idiopathic acute intestinal intussusception is rare, and more often than not secondary, so an etiological work-up is essential.

Conclusion:

Diabetic ketoacidosis remains a major cause of morbidity and hospitalization. Its treatment is essentially based on insulin supplementation, rehydration and treatment of the etiology of decompensation. In this article, we report on a rare cause of diabetic ketoacidosis, with a clinical picture of abdominal pain common to both diabetic ketoacidosis and acute intestinal intussusception, making its diagnosis, which is essential for management, difficult.

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