case report

Iatrogenic occult infection causing hypoglycemia in a teenage female

Anwar Al-Kassar, Amjad Al-Shdaifat

From the Faculty of Medicine, College of Medicine, Hashemite University, Zarqa, Jordan

Correspondence: Dr. Anwar Al-Kassar · Faculty of Medicine, College of Medicine, Hashemite University, Zarqa 33133, Jordan · T: +962-78-855-2748 · anwar_kassar@yahoo.com · ORCID: https://orcid.org/0000-0002-2509-108X

Citation: Al-Kassar A, Al-Shdaifat A. Iatrogenic occult infection causing hypoglycemia in a teenage female. Ann Saudi Med 2019; 39(5): 359-361. DOI: 10.5144/0256-4947.2019.359

Received: September 16, 2018

Accepted: October 24, 2018

Published: October 3, 2019

Funding: None.

Hypoglycemia is a clinically significant disorder with a wide variety of underlying causes. We report an unusual case of hypoglycemic episodes caused by an iatrogenic infection in a 17-year-old white female who presented to our emergency department complaining of 2-3 episodes of syncope per week in the previous year, which started after an appendectomy in 2016. She was hypoglycemic and a vague painless abdominal mass was found upon palpation. An abdominal CT revealed a large, well-defined heterogeneous lesion. The excised mass was surrounded by pieces of gauze that had remained in her abdomen since the appendectomy. An asymptomatic infection was the cause of her hypoglycemic episodes. After antibiotic therapy, the abdominal symptoms resolved within the first week and at follow up at 6 months after surgery, her glucose level was back to normal. This is the first reported case of iatrogenic occult infection with episodic hypoglycemia as a cardinal feature. This case illustrates that infection should remain in the differential diagnosis although cardinal signs are absent.

SIMILAR CASES PUBLISHED: 0

Hypoglycemia is a clinically significant disorder with a wide variety of underlying causes such as medications (glucose lowering and alcohol), renal and liver disease, insulinoma, inborn errors of metabolism, hypothyroidism, metabolic disorders, starvation and severe infection.[1] A six-fold increase in deaths due to diabetes has been attributed to patients experiencing severe hypoglycemia. In comparison to those not experiencing severe hypoglycemia, repeated episodes of hypoglycemia can cause impairment in the hormonal counterregulatory response.[2] Bairrão et al reported an unusual clinical case with psychiatric symptoms as the first presentation of an occult infection.[3] We describe another unusual presentation in a young patient with occult infection and hypoglycemia as a first manifestation.

CASE

A 17-year-old white female presented to our emergency department in May 2017 complaining of an episode of syncope. The patient reported that she had had 2-3 similar episodes per week in the past year, which started started after surgery a year earlier in a peripheral hospital in Jordan. In the emergency department, all tests were normal except her glucose level was 49 mg/dL. Her past medical history was significant for cystic fibrosis but not for diabetes or syncopal episodes before surgery in 2016. She took enzymes for cystic fibrosis and famotidine for gastric reflux. Her vital signs were all within normal values. She had an appendectomy and ovar-

ian cyst removed in 2016 and her symptoms started a few months after that surgery. The patient was referred to our diabetic clinic for further investigation to determine the source of the hypoglycemic episodes. After a week, her fasting blood glucose levels range was between 73–95 mg/dL and HbA1c was 4.8%. During the physical examination, the doctor found a vague painless abdominal mass upon palpation. She reported she had had mild dull pain with altered bowel habits for the previous 6 months.

An abdominal CT revealed a large, well-defined heterogeneous lesion (7.5×9.2 cm) with internal calcification in the midabdomen (L4-L5 level) (**Figure 1**). She was admitted to the surgical department for exploratory abdominal surgery. The excised mass was 10 cm in diameter and consisted of a cystic lesion surrounded by three pieces of gauze with significant abscess formation. The gauze had remained in her abdomen since the appendectomy in 2016. An asymptomatic infection was the cause of her hypoglycemic episodes. Following removal of the cyst, she was prescribed azithromycin250 mg once daily for five days. Her abdominal symptoms resolved within the first week. At follow up at 6 months after surgery, the glucose level was back to normal. **Figure 2** is an x-ray that shows the exact location in the abdomen.

DISCUSSION

Hypoglycemia induced by antidiabetic treatment is a common medical emergency in diabetic patients but is seen rarely for other conditions like insulinoma, rare autoimmune diseases, and paraneoplastic disorders.[4] Occult infection is usually associated with fever of unknown origin as the main complaint.[5] In this case, the patient complained of syncopal episodes, which were due to hypoglycemia. Accordingly, it was difficult to diagnose the patient correctly at first because occult infection with hypoglycemia as the only manifestation—no fever, loss of appetite or leukocytosis—has not been reported. We suspected an insulin-producing tumor (insulinoma) but the CT image showed a vague mass.[6] Therefore, an exploratory laparotomy was conducted to excise the mass. Recent research has found a relationship between cystic fibrosis and hypoglycemia as cystic fibrosis delays insulin secretion, but according to the patient she had no episodes of hypoglycemia before appendectomy. The return of normal glucose levels after removal of the gauze packs confirmed that the occult infection was the cause of her symptoms.[7] To our knowledge, this is the first reported case of iatrogenic occult infection with episodic hypoglycemia as the only symptom. This case illustrates that infection should remain in the differential diagnosis even when the main cardinal signs are absent.

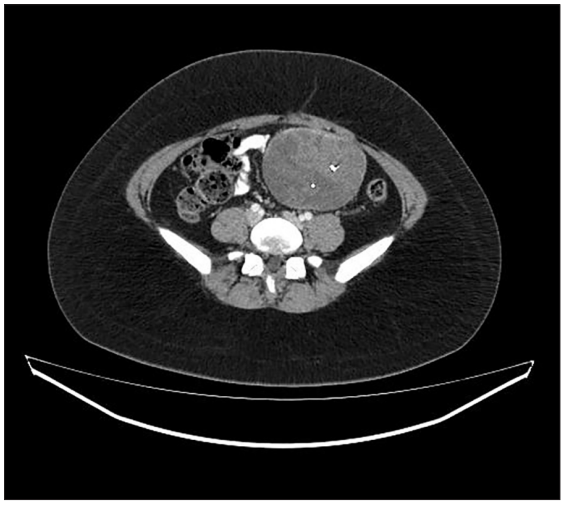

Figure 1. Large abdominal mass (7.5 by 9.2 cm) with internal calcification in the midabdomen.

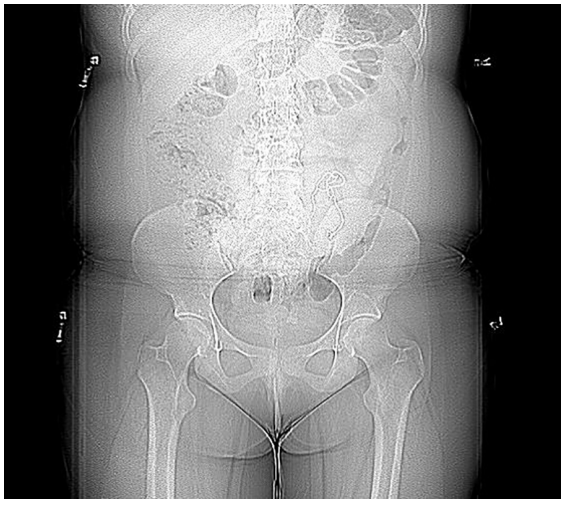

Figure 2. Abdominal x-ray showing showing the centrally located abdominal mass with calcification.

REFERENCES

1. Fradkin JE, Rodgers GP. Diabetes Research: A Perspective From the National Institute of Diabetes and Digestive and Kidney Diseases [Internet]. Diabetes. American Diabetes Association; 2013 [cited 2018Sep16]. Available from: http://diabetes.diabetesjournals.org/content/62/2/320

2. Schrier RW. The internal medicine casebook: real patients, real answers. Philadelphia: Lippincott Williams & Wilkins; 2007:119.

3. Bairrão M., Pereira G., Jara J.M., Esteves M.H. Occult abdominal infection and psychiatric symptoms: A case report. European Psychiatry, 2016;33:479.

4. Nirantharakumar K, Marshall T, Hodson J, Narendran P, Deeks J, Coleman JJ, et al. Hypoglycemia in Non-Diabetic In-Patients: Clinical or Criminal? PLoS ONE. 2012Feb;7(7).

5. Said ZNA. An overview of occult hepatitis B virus infection. World Journal of Gastroenterology. 2011;17(15):1927.

6. Guettier J-M, Gorden P. Insulin secretion and insulin-producing tumors. Expert Review of Endocrinology & Metabolism. 2010;5(2):217-27.

7. Haliloglu B, Gokdemir Y, Atay Z, Abali S, Guran T, Karakoc F, et al. Hypoglycemia is common in children with cystic fibrosis and seen predominantly in females. Pediatric Diabetes. 2016;18(7):607-13.