A Diagnostic Dilemma of Hypoglycemia in a Non-Diabetic Patient
Sadia Ashraf MBBS, Hooman Saberinia MD, Marisa Desimone MD
Department of Medicine, Division of Endocrinology, Diabetes and Metabolism
SUNY Upstate Medical University, Syracuse, NY

Introduction
Hypoglycemia in non-diabetic patients is an unusual scenario and presents a diagnostic challenge. Medications are a common cause of hypoglycemia in both diabetic and non-diabetic patients (1). We describe the case of an elderly non-diabetic male who developed severe and persistent hypoglycemia after treatment with doxycycline (DOXY).

Case
A 90-year-old male with a past medical history of chronic atrial fibrillation (AF) and hypertension presented with a 3 week history of fatigue and weakness. He was recently treated for pneumonia as an outpatient with amoxicillin/clavulanic acid. Physical examination was unremarkable except for poor hearing and decreased breath sounds at the lung bases. Chest CT showed bilateral pleural effusions. He started on DOXY and piperacillin/tazobactam for pneumonia with failed outpatient treatment. His home medications lisinopril and dabigatran were continued.

On hospital day 6 the patient had a change in mental status with lethargy, shortness of breath, and rapid AF. Serum glucose was 13 mg/dl; remaining labs were unremarkable. He was transferred to the ICU and given boluses of 50 ml dextrose 50%, and an infusion of dextrose 10% with frequent glucose monitoring. Despite this, the patient’s blood glucose continued to drop as low as 30 mg/dl. The patient received intravenous methylprednisolone 125 mg; a cortisol level prior to this, the patient’s blood glucose continued to drop as low as 30 mg/dl. The mechanism for hypoglycemia is unclear; proposed mechanisms include

- Increased insulin sensitivity,
- Increased half-life of insulin,
- Interference with epinephrine induced hyperglycemia,
- Tetracycline induced hepatotoxicity (1-4).

Conclusion
Practitioners should be aware of the potential for hypoglycemia in patients prescribed doxycycline, as this is a commonly used medication, and may result in severe and possibly life-threatening hypoglycemia.

References

Discussion
Medications should be considered as a cause of hypoglycemia. ACE-I are known to cause hypoglycemia, however this is unlikely in this case, as the patient was on lisinopril prior to hospitalization. Tetracyclines have been described as a cause of hypoglycemia in few case reports. There is only one other case report of DOXY causing hypoglycemia in a non-diabetic patient (2).

Variation in Blood Glucose in first 24 hours

Variation in Blood Glucose during the hospitalization

MON 292

Hypoglycemia in non-diabetic patients is an unusual scenario and presents a diagnostic challenge. Medications are a common cause of hypoglycemia in both diabetic and non-diabetic patients (1). We describe the case of an elderly non-diabetic male who developed severe and persistent hypoglycemia after treatment with doxycycline (DOXY).

Case
A 90-year-old male with a past medical history of chronic atrial fibrillation (AF) and hypertension presented with a 3 week history of fatigue and weakness. He was recently treated for pneumonia as an outpatient with amoxicillin/clavulanic acid. Physical examination was unremarkable except for poor hearing and decreased breath sounds at the lung bases. Chest CT showed bilateral pleural effusions. He started on DOXY and piperacillin/tazobactam for pneumonia with failed outpatient treatment. His home medications lisinopril and dabigatran were continued.

On hospital day 6 the patient had a change in mental status with lethargy, shortness of breath, and rapid AF. Serum glucose was 13 mg/dl; remaining labs were unremarkable. He was transferred to the ICU and given boluses of 50 ml dextrose 50%, and an infusion of dextrose 10% with frequent glucose monitoring. Despite this, the patient’s blood glucose continued to drop as low as 30 mg/dl. The mechanism for hypoglycemia is unclear; proposed mechanisms include

- Increased insulin sensitivity,
- Increased half-life of insulin,
- Interference with epinephrine induced hyperglycemia,
- Tetracycline induced hepatotoxicity (1-4).

Conclusion
Practitioners should be aware of the potential for hypoglycemia in patients prescribed doxycycline, as this is a commonly used medication, and may result in severe and possibly life-threatening hypoglycemia.

References