When life gives you Lyme: Dapsone-induced methemoglobinemia in the setting of chronic Lyme disease treatment

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INTRODUCTION

- Chronic Lyme disease (CLD) is still considered a controversial diagnosis among medical providers; however, it is often treated with multiple antibiotics, and often for a lengthy duration by some.
- Standard diagnostic tests for Lyme disease are frequently negative; in fact, many of these patients have never been infected with Lyme disease.
- Many patients in the Northeastern United States are overtreated with potentially harmful antibiotics and undergo unnecessary workup.

CASE PRESENTATION

History of Present Illness

- A 65-year-old man with a history of coronary artery disease, bilateral carotid artery stenosis, and chronic Lyme disease presented to the clinic with complaints of light-headedness, fatigue and exertional dyspnea of several months' duration.
- He bought two pulse oximeters, which revealed 85% oxygenation on room air at the same time in two different extremities.
- The patient had been undergoing treatment for CLD for almost one year with rifampin, hydroxychloroquine, doxycycline, and dapsone.
- He had never been hospitalized for respiratory complaints and denied the use of inhalers or supplemental oxygen.
- The patient was a lifelong non-smoker and denied alcohol or illicit drug use. He was a retired teacher and was currently working for a volunteer organization to take care of birds and owned pet birds.

Hospital Course

- For his dyspnea evaluation, he had undergone a chest x-ray, which revealed enlarged pulmonary arteries and echocardiogram which revealed a systolic pulmonary pressure around 22 mmHg, along with enlarged left atrium and mild diastolic dysfunction.
- His sleep study was negative for obstructive sleep apnea.
- The patient's complete blood count, allergen testing, and glucose-6-phosphate dehydrogenase were unremarkable, with the exception of macrocytic anemia.
- Arterial blood gas and pulmonary function test were pursued, and he was diagnosed with dapsone-induced methemoglobinemia.
- The patient was advised to discontinue dapsone, which improved his shortness of breath significantly, and he no longer witnessed hypoxia on his home pulse oximeters.

DISCUSSION

- This case illustrates the potential for methemoglobinemia with the use of dapsone for the treatment of CLD.
- Not only does this demonstrate the severe adverse effects of standard treatments for CLD, but it also highlights an area of unnecessary healthcare expenditure.
- Recognition of CLD as an illness that does not require treatment will decrease unnecessary healthcare expenditure and protect patients from potentially harmful medications.

REFERENCES


Fig 1 No focal airspace disease. Enlarged pulmonary arteries in the setting of pulmonary artery hypertension.

Fig 2 PFT: No evidence of obstructive or restrictive disease. Slightly increased methemoglobin. ABG: Methemoglobin elevated