

# Can fatigue be life-threatening? A case of hemolytic anemia from combined use of Dapsone and Hydrochlorothiazide

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## Introduction

- Fatigue and generalized weakness are commonly encountered complaints in the Emergency Department
- Fatigue and generalized weakness are classified as “non-specific symptoms” since the differentials range over 14 ICD-10 categories
- Amidst the patients who present to the Emergency Room with nonspecific complaints, 60% tend to have a serious outcome within the next 30 days and have significantly more mortality than the patients who present with specific complaints
- In 56% of patients who present to the ED with nonspecific complaints, the primary emergency department diagnosis did not correlate with the discharge diagnosis
- This case study highlights the need to investigate patients who present with non-specific complaints with a potentially life-threatening cause in mind.

## Uniqueness of the Case

This is the first reported case of a combined effect of hemolytic anemia in a patient without G6PD enzyme deficiency, consuming dapsone and hydrochlorothiazide.

## Patient Description

- History - 56-year-old female complaining of worsening fatigue and weakness for 6 days. Denied any flank pain, fevers, runny nose, chills, headaches, abdominal pain, or changes in her stool or urine
- Past medical history - type 2 diabetes, hyperlipidemia, hypertension and linear IgA bullous dermatosis
- Notable medications- Dapsone 25 mg QD (previous G6PD work up negative) which was increased to 100mg QID one week ago and Hydrochlorothiazide
- Physical exam – pallor and icterus, normal vital signs

## Investigations

- Fingerstick glucose 458 mg/dL without elevated anion gap or beta-hydroxybutyrate
- Hb 7.2 g/dL with reticulocytosis (11.2 g/dL one week ago)
- Total bilirubin 4.2 mg/dL with predominant unconjugated hyperbilirubinemia
- LDH levels of 773 U/L
- Urine Analysis hematuria and the presence of urobilinogen, fecal occult blood test negative
- Chest X Ray normal
- CT Scan of abdomen no signs of bleeding

## Differential Diagnosis for Fatigue

Cardiopulmonary Conditions	CHF, COPD, Sleep Apnea
Endocrine/Metabolic Conditions	Dehydrations, Electrolyte Abnormalities, Hypo/Hyper thyroidism, Chronic Renal Disease, Chronic Hepatic Disease
Hematologic/Neoplastic	Anemia, Occult Malignancy
Infectious Diseases	Acute HIV, Mononucleosis Syndrome, Viral Hepatitis, Bacterial Endocarditis, Tuberculosis
Rheumatologic	Fibromyalgia, Polymyalgia Rheumatica, Systemic Lupus Erythematosus, rheumatoid arthritis, Sjögren's syndrome
Psychological conditions	Depression, anxiety disorder, somatization disorder
Neurologic conditions	Multiple sclerosis
Medication toxicity	Benzodiazepines, antidepressants, muscle relaxants, first-generation antihistamines, beta-blockers, opioids
Substance use	Alcohol, marijuana, opioids, cocaine/other stimulants

## Interventions

- Stop Dapsone and Hydrochlorothiazide
- 1 L of Normal saline over 1 hour
- IV Insulin 8 units
- Packed RBCs 2 units
- Admission with the medical service

## Outcome

- Hb levels of 10.6 g/dL after two more units of packed RBCs in the medical service, and discharge one week later
- Follow up for alternate management of Hypertension and IgA bullous dermatosis

## Key Learning Points

- Dapsone and Hydrochlorothiazide can independently cause hemolytic anemia in patients who consume a standard dose, through different mechanisms
- Patients who present with non-specific symptoms tend to have serious underlying causes and have more mortality than those who present with specific symptoms
- Emergency Physicians tend to have poor diagnostic accuracy for non specific symptoms
- Fatigue as a chief complaint can have a wide range of possible diagnosis.