

## Introduction

- Corticosteroids were the most effective treatments available for inflammatory bowel disease (IBD) and other inflammatory and autoimmune diseases before the era of biologic agents.
  - Corticosteroids use was often prolonged, and as a result, many patients developed secondary adrenal insufficiency.
- Secondary adrenal insufficiency is a condition in which the normal circadian rhythm of cortisol secretion is maintained but a defect in cortisol response to stress persists.
  - This defect puts patients at risk of adrenal crisis after a severe physiologic stress.
- As corticosteroids are no longer used chronically in IBD, secondary adrenal crisis has become a rare complication and many gastroenterologists have no personal experience with it.
- We recently saw such a case which we are presenting as a reminder of its continued existence.

## Case Description

- A 73-year-old female with Crohn's disease presented to the emergency department with diarrhea.
- She was diagnosed with Crohn's at the age of 18.
  - Her disease was complicated by short bowel syndrome and esophageal involvement.
  - She had been steroid dependent for 15 years, though stable on ustekinumab and off steroids for more than 8 years.
- Patient presented to the emergency department with an acute onset of abdominal pain, diarrhea with incontinence, profound weakness, disorientation, and pre-syncope.
  - Her symptoms started one hour after IV iron sucrose therapy.
  - Initial physical exam was notable for pallor and edema of hands and feet.
  - Laboratory exam showed hemoconcentration, leucocytosis, hyponatremia, hyperglycemia, elevated serum lactate concentration and anion gap.
- Because of the severity of this response, the possibility of adrenal crisis was raised.
  - Serum cortisol was 15.5 ug/dL (nl 6.2-29) despite the stressful situation.
  - The patient responded clinically to 100 mg of hydrocortisone IV.
  - She was discharged within 24 hours.
- All laboratory abnormalities reversed within 72 hours.

Figure 1. Laboratory results before and after the stressor

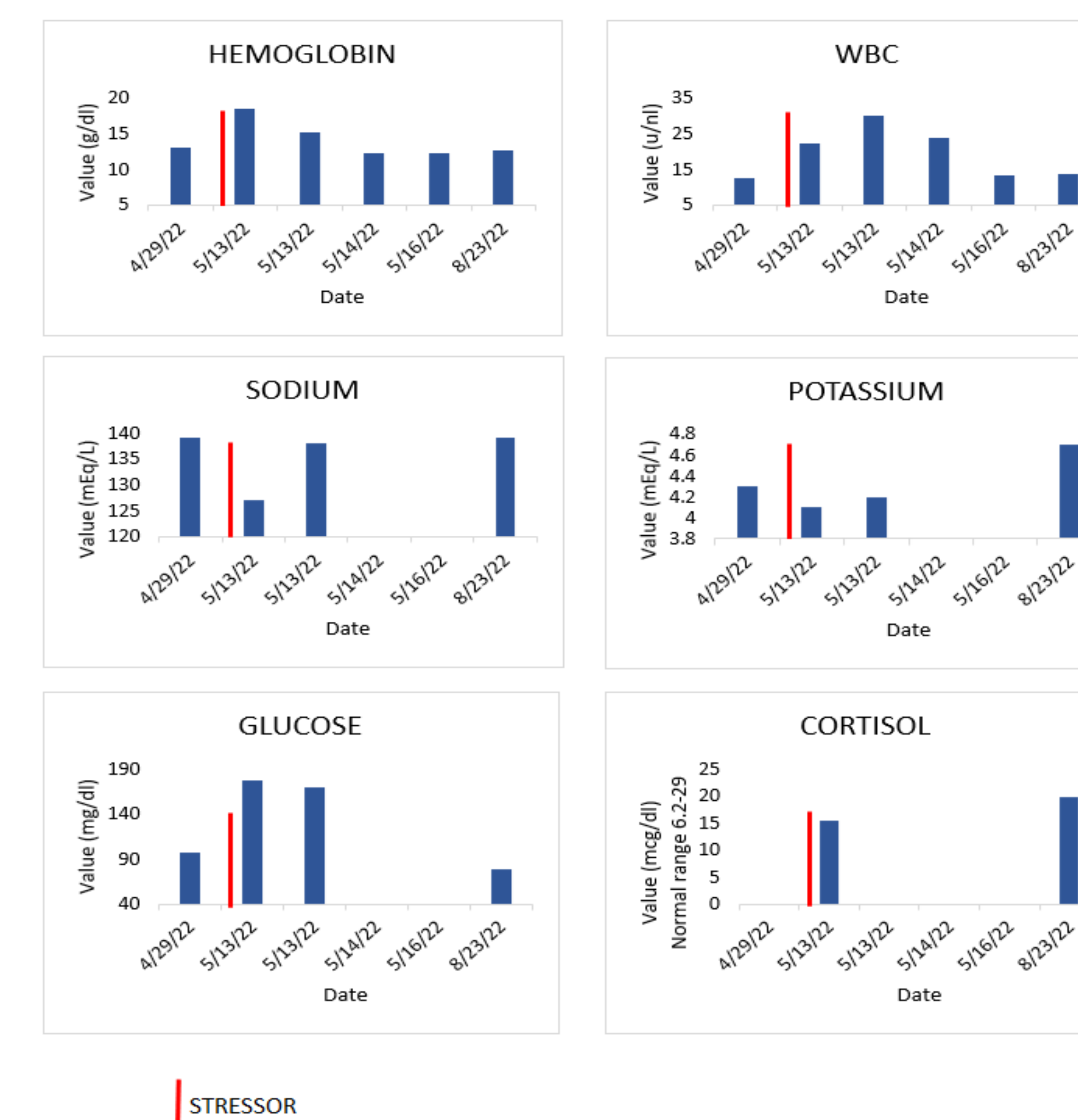
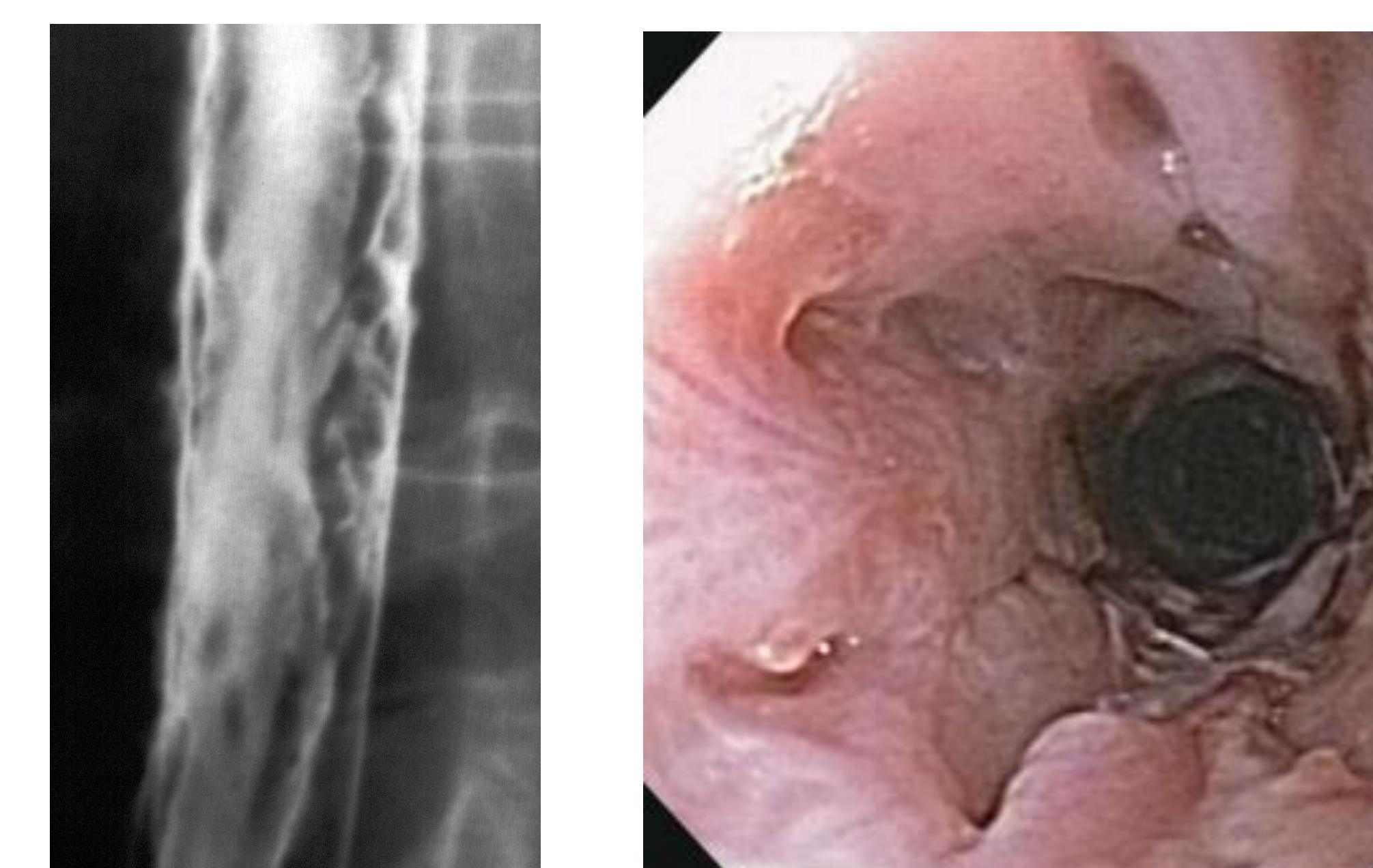


Figure 2. Esophageal Crohn's disease in 1999



## Discussion

- Adrenal crisis may present with a wide variety of nonspecific symptoms.
- This condition should be in the differential diagnosis when a patient presents after a significant physiologic stress and has a history of chronic oral corticosteroid use.
- Secondary adrenal insufficiency may persist for many years after chronic steroid use and may be permanent.
  - In secondary adrenal crisis electrolyte disturbances are less common than in primary cases, as the zona glomerulosa in the adrenal glands is not affected.
- Important hints are the patient's age and GI treatment history, which includes prolonged exposure to corticosteroids.

### Contact

Maria Gabriela Rubianes Guerrero, MD  
 Albert Einstein College of Medicine  
 Email: gaby8rubi@hotmail.com  
 Phone: 305-219-7174