Ahoy! A Modern Day Case of Scurvy

Wendy Gu, MD; Mark Henderson, MD, FACP
University of California, Davis Medical Center; Sacramento, CA

Learning objectives
• Six percent of the U.S. population greater than 6 years of age is vitamin C deficient.
• Classic signs: weakness, anemia, tooth loss, gum bleeding, bruises, petechiae.
• Diagnosis is confirmed with an ascorbic acid level.
• Thorough history-taking is key to diagnosis, especially when laboratory and imaging workup for anemia is unrevealing.

Case Presentation
• 56 year old Caucasian man admitted from hematology clinic after a syncopal episode
  - regained consciousness after approximately 30 seconds
  - denied confusion, palpitations, or focal neurological deficits
  - reported non-traumatic lower extremity bruising for several months:
    - had been admitted to an outside hospital seven weeks earlier for presyncope and orthostatic hypotension
    - was found to be anemic but an extensive hematologic workup did not reveal the etiology
  - PMH: iron deficiency anemia and localized esophageal cancer treated with chemoradiation and esophagectomy in 2003
  - No family history of bleeding disorders
  - Was not taking warfarin, aspirin, or NSAIDs

Workup and clinical course
• transfused two units of pRBCs with appropriate rise in H/H
• started on vitamin C supplementation
  - one-time intramuscular dose
  - 500 mg daily in addition to an MVI

One month later in hematology clinic
• hemoglobin 13 g/dL
• ascorbic acid level 2.2 mg/dL
• Patient did not report any new hematomas or syncopal events

Discussion
• Classic clinical manifestations of scurvy are well described in ancient Egyptian, Greek, and Roman literature:
  - weakness, anemia, tooth loss, gum bleeding, bruises, petechiae, and vasomotor insufficiency.
  - major cause of morbidity and death during the Great Potato Famine, American Civil War, and California gold rush
• Ascorbic acid:
  - Required for proline and lysine hydroxylation in collagen formation
  - Deficiency → abnormal collagen → capillary fragility
• Scurvy remains a relevant differential diagnosis in the workup of anemia in the first-world
• Have a high clinical suspicion
• HISTORY IS KEY:
  - Dietary habits, dentition, transportation
  - Check an ascorbic acid level when evaluating for other potential hematologic etiologies of anemia

ANA
Negative (<1:40)

Collagen/epi
54 sec (94-193)

Collagen/ADP
>300 sec (71-118)

Factor V, VIII, IX, X, and XIII activity level
All normal

von Willebrand Factor Ag
235% (normal 50-150)

vWF activity level
254% (normal 50-170)

Ascorbic acid: 0.0 mg/dL