

*Almost gone but never forgotten: Scurvy with an initial presentation of hemarthrosis*

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## **Case Presentation**

A 48-year-old female presents with a chief complaint of progressively worsening bilateral knee pain. She has a past medical history of squamous cell carcinoma of the oropharynx and underwent mandibulectomy and maxillectomy with flap reconstruction, resulting in chronic dysphagia and PEG tube dependence over the past four years. She initially presented to urgent care with an abrupt onset of left-sided knee pain with significant swelling. One month later, she had progressively worsening pain and increased swelling in her left knee, with the development of similar symptoms in her right knee. She presented to the emergency room three months after the initial symptoms, and an MRI of the left knee was performed. A large, complicated left knee joint effusion was noted. She reported recently using NSAIDs for the past few months in addition to her chronic cancer-related opiate medications due to worsening knee pain. An arthrocentesis was performed with 80ccs of bloody joint fluid removed. The gram stain of the aspirated fluid was negative. One week later, she presented with recurrent swelling of the bilateral knees and significant debility from worsening bilateral knee pain. In addition, the patient had developed a petechial rash on the anterior shins. She denied any previous history of hemarthrosis, trauma, or

similar rash in the past. She had a prior history of menorrhagia but denied any prolonged bleeding following surgical procedures, including her prior hysterectomy. On physical exam, the patient was noted to have bluish discoloration of her sclera, thin appearance, bilateral knee swelling without erythema, and a fine palpable perifollicular petechial rash on her anterior shins. Repeat aspiration of her left knee yielded only 3ccs of bloody aspirate and 30ccs of bloody aspirate from the right knee. Upon admission, labs showed a slightly elevated PTT and average platelet count. Her collagen/ADP and collagen/epinephrine platelet function analyses were prolonged. The PT, von Willebrand factor antigen and activity, peripheral blood smear, platelet count, ANA, and ANCA levels were within normal limits. The patient was discovered to have an undetectably low vitamin C. Since her PEG tube dependence, her diet consisted of primarily soft foods such as mashed potatoes, grits, and oatmeal. Vitamin C was replaced with ascorbic acid 1000 mg daily in the inpatient setting with improvement in hemarthrosis. She was discharged with 250 mg of vitamin C daily per her PEG tube. The patient was counseled to avoid NSAIDs of any kind indefinitely.

## **Discussion**

This patient was diagnosed with scurvy presenting as recurrent spontaneous bilateral hemarthrosis secondary to vitamin C deficiency from poor nutritional intake. Upon review of the literature, similar cases have occurred in which hemarthrosis was the initial presentation for scurvy (1-4). Vitamin C is crucial in maintaining vascular health because it synthesizes and preserves collagen, an essential component of blood vessels (5). Collagen provides structural integrity and elasticity to blood vessels, allowing them to withstand the pressures exerted by circulating blood. When vitamin C is deficient, collagen synthesis is impaired (5). This impairment leads to improperly formed vessel walls and can lead to hemarthrosis. Individuals with poor diet, excessive alcohol use, and malabsorptive disorders are at risk of developing a vitamin C deficiency. This case highlights the importance of maintaining adequate nutrition and educating

patients about their dietary requirements, especially when they are reliant on alternative modes of nutrition. The patient's initial presentation of hemarthrosis likely occurred due to the weakened state of her blood vessels and was further exacerbated by concurrent NSAID usage. The standard recommended dosage for adults is 300mg to 1000mg daily for one month. After initiation of vitamin C repletion, symptoms typically disappear within 3–5 days, and most physical findings will resolve in 1–2 weeks (6). In summary, this case demonstrates the need to include scurvy in the differential diagnoses for patients with hemarthrosis, petechiae, and nutritional deficits.

## References

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