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Quiet a Puzzle: A Case Report of 15 year Old Female with Severe Anemia Due To Scurvy

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Introduction /Background

Scurvy is historically thought of as a disease affecting sailors in the seventeenth century.

Vitamin C deficiency is rare in the developed world. It is mainly found in patients with poor nutrition and specifically those with developmental delay.

The spectrum of scurvy is varied and includes dermatological, dental, bone and systemic manifestations.

We present to you a case of a 15-year-old female with trisomy 21 presenting with severe anemia as a direct cause of vitamin C deficiency.

Case Presentation

The patient presented with a one month history of progressive bilateral lower extremity bruising and inability to walk. Physical exam notable for trisomy 21 features. Bilateral swelling in lower extremities with the right calf more swollen than the left. Perifollicular hyperkeratotic papules with surrounding pinpoint hemorrhage noted on upper extremities with coiled hair. See figures 1 and 2

Bilateral lower extremities had large areas of ecchymosis with significant tenderness on palpation. Remainder of the physical exam and review of the systems is unremarkable.

The patient underwent an extensive workup which showed normocytic anemia with a hemoglobin of 8.7 g/dL, elevated D-dimer and ANA titer. Remainder of workup including comprehensive metabolic panel, iron studies, coagulation studies, and autoimmune markers were unremarkable. Hemolysis labs were grossly unremarkable as well. Hematological workup including ADAMTS12, Paroxysmal nocturnal hemoglobinuria, Factor deficiencies, Platelet function assay, and protein C and S were unremarkable.

Duplex ultrasound, CT and CTA of lower extremities were unremarkable. Vitamin C levels were low and barely detectable at <0.1mg/dL.

Figures/Methods

Consent for photographs of exam findings were obtained from parents.



Figure 1: Image on the large areas of ecchymosis in lower extremities bilaterally.



Figure 2: Perifollicular hyperkeratotic papules with surrounding pinpoint hemorrhages in upper extremities with coiled hair.



Figure 3: Significant improvement after two weeks of treatment.

Results / Discussion

Patient was started on vitamin C supplementation of 250 mg twice a day and iron supplementation. She was found to have low B12 and vitamin D levels on subsequent visits. Significant improvement was noted after three weeks of treatment as the patient was able to walk, in addition to near-complete resolution of her ecchymosis and improvement in her anemia.

Scurvy can have a wide variety of presentations. Earlier symptoms may include: irritability, weight loss, which can progress to bruising and loss of teeth. Ecchymosis can be extensive and severe, causing inability to bear weight as seen in this patient.

Our patient had findings of normocytic anemia with mean corpuscular volume on the upper limit of the normal range, which was explained by her vitamin B12 deficiency.

Conclusion

Scurvy or vitamin C deficiency is considered rare especially in the developed world. A number of case reports discussed variable presentations such as limp, ecchymosis and others.

It is very essential to recognize nutritional deficiencies in patients with new onset selective eating behaviors especially in those patients with developmental delay.

Vitamin C deficiency and associated symptoms can be easily reversed within weeks with vitamin C supplementation.

References:

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