Clinical Image

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Bleeding gums due to immune thrombocytopenic purpura

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A 21-year-old man presented to the Emergency Department (ED) in September 2021 with the complaint of bleeding from his gums and lips. The patient was recently clinically diagnosed with strep throat and prescribed a 5-day course of Azithromycin. On day 5 of the treatment course, he noticed blister-like lesions filled with blood forming in his mouth. His symptoms worsened for one week prior to his arrival to the ED. Laboratory testing showed the patient's platelet count was less than $1 \times 10^3/\mu\text{L}$ (Table 1) and the bleeding had progressed to persistent oozing from the gums (Image A), along with presence of petechial rashes (Image B).

The patient was subsequently diagnosed with Immune Thrombocytopenic Purpura (ITP). Drug-induced thrombocytopenia was initially suspected due to recent use of Azithromycin. However, ITP was also part of the differential diagnosis with the possibility that the previous throat infection was of viral etiology. Hematology consultation recommended 1 unit platelet transfusion and if there was improvement then the thrombocytopenia was likely due to Azithromycin. After the platelet transfusion, the level increased to $11 \times 10^3/\mu\text{L}$. However, 11 h later, repeat testing showed it decreased back to $5 \times 10^3/\mu\text{L}$, suggesting ITP as the diagnosis. Given the lack of response and severity of bleeding, the patient was started on Intravenous Immunglobulin (IVIG) therapy at 1 g/kg for two days and Intravenous Dexamethasone of 40 mg daily given the presumed diagnosis of ITP. The patient showed significant improvement within 13 h of treatment initiation. His platelets increased to $23 \times 10^3/\mu\text{L}$ and there was cessation of bleeding. On the day of discharge, his platelets increased to $66 \times 10^3/\mu\text{L}$.

Image A: Image showing bleeding gums on a 21-year-old man.

Table 1: Laboratory test results.

	Patient results	Normal range
White blood cell count	$8.8 \times 10^3/\mu\text{L}$	$4.3\text{--}10.6 \times 10^3/\mu\text{L}$
Hemoglobin	15 g/dL	13.3–17.0 g/dL
Hematocrit	46.40%	40.3–50.3%
Platelets	$<1 \times 10^3/\mu\text{L}$	$132\text{--}337 \times 10^3/\mu\text{L}$
Immature platelets	0%	0.9–11.2%
Fibrinogen	442 mg/dL	200–393 mg/dL
Protime	15.5 s	10.1–12.9 s
International normalized ratio	1.34	0.88–1.12
Activated partial thromboplastin time	36.6 s	25.2–36.5 s
Creatinine	1.04 mg/dL	0.55–1.02 mg/dL
Blood urea nitrogen	14 mg/dL	8–20 mg/dL
Lactate dehydrogenase	145 u/L	87–241 u/L
Haptoglobin	266 mg/dL	30–200 mg/dL
COVID-19 PCR	Negative	

After discharge, the patient was continued on a tapered course of glucocorticoid therapy. During the outpatient follow up visit, his platelets increased to $216 \times 10^3/\mu\text{L}$.

ITP manifestations include cutaneous and or mucosal bleeding with the possibility of life-threatening organ hemorrhage [1]. First line treatment includes high dose

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Image B: Presence of petechiae.

steroids. If there is no response to the glucocorticoid therapy, IVIG can then be initiated. However, for severe presentations, high dose steroids and IVIG can be initiated simultaneously [2–4]. Additional laboratory testing was performed (Table 1) to help secure the diagnosis, as ITP remains a diagnosis of exclusion [5]. Other potential conditions in his age group that could have caused the thrombocytopenia include Leukemia, Vitamin B12 and Folate deficiencies. Azithromycin has been reported to cause thrombocytopenia [6]. Other medications (such as Sulfonamides) can also cause thrombocytopenia [7]. In this case, the lack of response to platelet transfusion and the significant improvement and response to the corticosteroids and IVIG treatment helped support the diagnosis of ITP.

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