Unexplained Syncope in Mastocytosis: The Role of Early Dermatological Recognition

Dear Editor,

Mastocytosis is a rare disorder characterized by the accumulation of abnormal mast cells in various tissues. The World Health Organization recognizes three disease types: cutaneous mastocytosis, systemic mastocytosis and mast cell sarcoma. (1) Urticaria pigmentosa, a type of cutaneous mastocytosis is the most common form of mastocytosis and manifests as red-brown macules or papules on the skin. While typically benign, systemic involvement may occur, necessitating further evaluation. Clinical manifestations primarily arise from mast cell degranulation and include diarrhea, nausea, vomiting, syncope, hypotension, osteomuscular pain, osteoporosis, anaphylaxis and neuropsychiatric disturbances.

A 21-year-old female presented to the emergency room following a loss of consciousness lasting about a minute that followed palpitations and blood pressure of 65/42 mmHg. All her vital parameters, ECG and laboratory tests were within normal limits. The patient's medical history revealed dyspepsia and syncopal episode about a month earlier, which was preceded by drowsiness and lips cyanosis. In the following days, extensive cardiological evaluation including ECG Holter, ergometry, echocardiography and heart MRI was performed but did not reveal an underlying cause for the syncopal episodes. Ten months later, the patient presented to the Department of Dermatology and Venereology with a long-standing history of inducible urticaria, triggered by exposure to heat, cold, and mechanical pressure. Physical examination revealed multiple brown-to-red hyperpigmented macules on the arms, thighs, and back (figure 1). Additionally, marked dermatographism and a positive Darier's sign were observed. Histopathological analysis of a skin lesion biopsy demonstrated an abundance oval to cuboid cells with granulomatic metachromasia in the dermis as identified by Giemsa stain, while immunohistochemical analysis demonstrated CD117 positivity in mast cells confirming the diagnosis of urticaria pigmentosa. Further diagnostic assessments revealed mildly elevated serum tryptase levels (14 ng/mL) and genetic testing detected the KIT(D816V) mutation in peripheral blood cells. Other laboratory investigations were unremarkable, as well as liver and spleen ultrasound findings. The patient refused bone marrow biopsy to assess systemic involvement, but continues to undergo annual follow-up testing. She was counseled to avoid known triggers such as temperature extremes, emotional stress, alcohol and medications associated with mastocyte degranulation. Additionally, she was advised to carry an epinephrine auto-injector for emergency management of anaphylaxis.

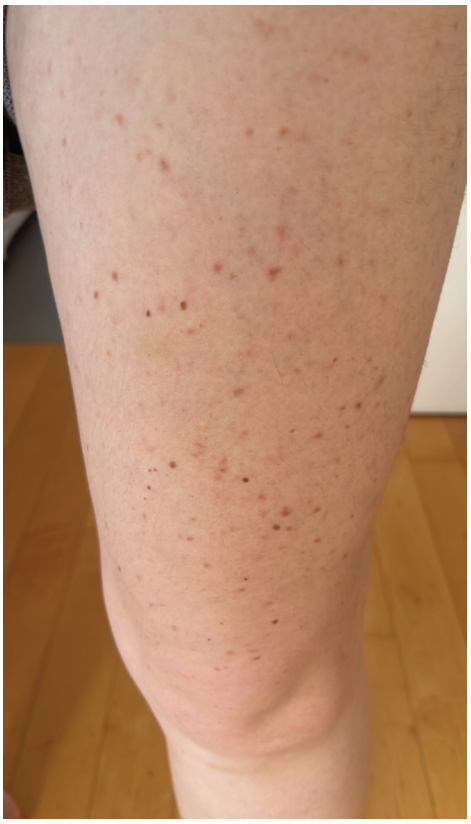

Figure 1. Urticaria pigmentosa

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When evaluating syncope, it is crucial to consider systemic conditions beyond primary cardiovascular and neurological causes. Identifying dermatological signs such as urticaria pigmentosa can significantly shorten the diagnostic timeline, leading to earlier intervention and improved patient outcomes.

References

1. Khouri JD, Solary E, Abla O, Akkari Y, Alaggio R, Appelrey JF, *et al.* The 5th edition of the World Health Organization classification of hematolymphoid tumors: myeloid and histiocytic/dendritic neoplasms. Leukemia. 2022;36(7):1703-1719.

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