

# Black Patches on the Angles of the Mandible

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A 30-year-old woman presented for evaluation of intermittent pigmented patches on the face of several months' duration. The patches would form during the day and disappear when the patient woke up the next morning. She denied any associated pruritus, pain, redness, or recent trauma to the area. Her medical history was otherwise unremarkable. Physical examination revealed ill-defined black patches on both mandibular angles (top). The following day, the patient sent a photograph from home, and the patch was absent (bottom).



## WHAT'S YOUR DIAGNOSIS?

- allergic contact dermatitis
- black dermographism
- cutaneous mastocytosis
- ecchymosis
- type I hypersensitivity reaction

PLEASE TURN TO **PAGE E13** FOR THE DIAGNOSIS

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## THE DIAGNOSIS: Black Dermographism

**B**lack dermographism is characterized by asymptomatic black discoloration on the skin caused by contact with various metals, most commonly gold but also silver, nickel, zinc, lead, and aluminum.<sup>1</sup> These metallic particles have a black appearance as they do not reflect light.<sup>2</sup> Our patient was wearing gold hoop earrings at presentation, which were near the black patches. Certain topical products (eg, makeup, sunscreens [especially those containing zinc oxide or titanium oxide], toothpaste) can abrade metal, causing it to deposit on the skin and absorb light.<sup>3</sup> The black discoloration is not permanent and can be prevented by avoiding contact between inciting products and metals.<sup>2</sup> No further diagnostic testing is necessary, and the patches will self-resolve if contact with the product is avoided.

Our patient noted that she wore a physical sunscreen daily, but the black patches were present only when she wore the gold hoop earrings. Given this history and physical examination findings in the office, it was suspected she had black dermographism due to her gold earrings and topical sunscreen. The patient was advised to avoid wearing the gold earrings.

Black dermographism is a misnomer because it is not a true urticarial reaction but rather a false dermographism; therefore, patients will not experience pruritus or erythema.<sup>1</sup> True dermographism is an inducible urticarial eruption from pressure or trauma to the skin. The clinical appearance is notable for erythematous wheals in the shape of the external force applied.<sup>4</sup> Two other types of false dermographism include white dermographism, which occurs secondary to allergic contact dermatitis, and yellow dermographism, which is caused by bile deposits on the skin.<sup>4</sup>

Additional diagnoses were able to be ruled out for the following reasons: cutaneous mastocytosis can manifest

with red-brown maculopapular lesions often accompanied by the Darier sign, which includes swelling, pruritus, and erythema but was not present in our patient.<sup>4</sup> Allergic contact dermatitis manifests as a delayed eczematous reaction around 48 to 72 hours after exposure to an allergen. Our patient's lesions formed while wearing gold earrings but did not manifest with a hypersensitivity reaction. Of note, symptomatic dermographism has been reported to mimic latex allergy.<sup>5</sup> Ecchymosis may appear as erythematous, violaceous, or yellow-green patches depending on the stage but develops due to leakage from broken blood vessels secondary to trauma, which was not reported in our patient. Type I hypersensitivity reactions can occur minutes to hours after exposure to an allergen but typically manifest with a wheal-and-flare presentation.

Black dermographism from gold earrings can mimic concerning skin disorders or poor hygiene, causing unnecessary anxiety. Understanding that it is a harmless reaction between gold and certain topical products can reassure patients and prevent unnecessary testing or treatments.

### REFERENCES

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