

Mask Phenomenon: Facial Petechiae in a COVID-19 "Long Hauler" Patient

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CASE PRESENTATION

A healthy 18-year-old female presented to the clinic because of an eruption on her face. She tested positive for COVID-19 a few months prior and had headaches, muscle weakness, and severe paroxysms of nonproductive cough since that time. She noticed that her face was covered by asymptomatic small red macules that appeared suddenly.

Physical examination revealed extensive macules in the periorbital area, 1 to 2 mm in diameter, that were non-blanching. These findings were consistent with a diagnosis of petechiae (see Figure); however, it was not present on her arms, legs, or trunk. Other physical examinations revealed unremarkable findings. No laboratory testing or skin biopsy was performed.

A clinical diagnosis of post-emetic petechia, a form of the “mask phenomenon” was suspected. Within 48-hours, the eruption began to fade and had disappeared completely after two weeks without treatment.

DISCUSSION

Facial petechiae, a form of the “mask phenomenon,” is often an unrecognized cause of facial rash in the ambulatory setting.¹ Petechiae, purpura, and ecchymoses are non-blanching lesions that occur due to extravasation of blood into the dermis. In the acute setting, the presence of petechiae and purpura can be an alarming sign to general practitioners and dermatologists, as many life-threatening etiolo-

gies can present in this manner. Other differential diagnoses of facial purpura to consider include vasculitides, thrombocytopenic purpura, amyloidosis, autoimmune connective tissues diseases such as systemic lupus erythematosus, and drug eruptions.²

Post-emetic petechiae occur secondarily to an increase in intravascular pressure such as after prolonged coughing or vomiting, but can appear after any other exertion that raises intrathoracic pressure.^{1,3} Distinguishing this cause of petechiae from other etiologies relies upon identification of the location of the lesion, as it classically manifests around the periorbital area given the high vascularity and thus propensity for blood extravasation into the relatively loose tissues of the face.

The history in this case was important in ascertaining the cause of petechiae. Notably, the clinical presentation suggested that the mask phenomenon can be a post-acute sequela of SARS-CoV-2 infection.⁴ An estimated 10% of COVID-19 survivors continue to experience symptoms several weeks to months after the appearance of initial symptoms, also called “long-haulers”. Twenty percent of suspected cases were in healthy adults ages 18 to 34. Recognizing post-emetic petechiae can help to avoid misdiagnoses that lead to ordering unnecessary tests, as work-up for coagulopathies or thrombocytopenia is not required.

The physician can reassure the patient that the mask phenomenon is transient. Spontaneous resolution of the eruption occurs within several days.^{1,3} Further evaluation of the condition of this otherwise healthy patient thus was avoided. Physicians should consider the possibility of a mask phenomenon when COVID-19 long-hauler patients present with facial petechiae.

REFERENCES

- Alcalay J, Ingber A, Sandbank M. Mask phenomenon: Postemesis facial purpura. *Cutis* 1986; 38(1):28. PMID: 3731865.
- Ono R, Takahashi H, Fukushima K. Emesis-induced facial purpura as a mask phenomenon. *BMJ Case Rep* 2021; 14(2):e241456. PMID: 33568416.
- Ibrahim MK, Gavvala S. Problematic purpura. *Cureus* 2021; 13(2):e13473. PMID: 33777561.
- Vehar S, Boushra M, Ntiamoah P, Biehl M. Post-acute sequelae of SARS-CoV-2 infection: Caring for the ‘long-haulers’. *Cleve Clin J Med* 2021; 88(5):267-272. PMID: 33941600.

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