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LETTER

Colchicin treatment of COVID-19 presenting with cutaneous rash and myopericarditis

Dear Editor,

Coronavirus disease 2019 (COVID-19) has become a pandemic condition, yet little is known about its dermatologic manifestations.[1] Antiviral agents, antibiotics and antimalarial drugs have been used for prevention and treatment of COVID-19.[2-4] Very little is known about colchicin efficacy. We describe a COVID-19 positive patient with only cutaneous rash and myopericarditis, who was successfully treated with colchicin.

A 19-year-old female presented to the emergency department with a 4-day history of fever (38.5°C), followed by chest pain and cutaneous rash. She was tachycardic (120 b.p.m.) and had an oxygen saturation of 97% in ambient air. Thorax and abdominal examination were normal. Skin examination showed a rash consisting in slightly erythematous confluent macules, involving the trunk and the limbs. On the palms and soles the macules merged into sharply edged areas of erythema with islands of spared skin (Figure 1). Chest X-ray and thoracic CT-scan were both negative. Electrocardiography showed sinus tachycardia and diffuse ST-segment elevation; troponin T level was 367 ng/L. Echocardiography demonstrated normal ventricular function, with no signs of pericardial effusion. A diagnosis of acute myopericarditis was made. Laboratory tests showed leucocytosis (18.2×10^9/L) with 6% of lymphocytes, and normal levels of hemoglobin, platelet count, and lactic dehydrogenase. C-reactive protein (23.10 mg/L), as well as D-dimer (1095 ng/mL) and fibrinogen (974 mg/dL) levels were elevated. A screening for autoimmune diseases was negative. Serology ruled out *Mycoplasma pneumoniae*, Epstein-Barr virus, Cytomegalovirus, Coxsackievirus, Parvovirus B19, Hepatitis A-B-C virus, *Treponema pallidum*, and Human Immunodeficiency Virus infection. Blood cultures were negative. Real-time reverse transcriptase-polymerase chain reaction assay on a nasopharyngeal swab specimen was positive for COVID-19, while negative for Adenovirus, other Coronaviruses, Human Enterovirus, Influenza, and Parainfluenza Virus. Treatment was started with ceftriaxone, low molecular weight heparin, acetylsalicylic acid, pantoprazole, hydroxychloroquine and lopinavir-ritonavir. Antiviral and hydroxychloroquine therapy was discontinued after 2 days because of nausea, diarrhea and anemia. Colchicine (0.5 mg twice a day) was started, with a complete resolution of the cutaneous lesions, ECG normalization, and progressive apyrexia. On day 8, nasopharyngeal

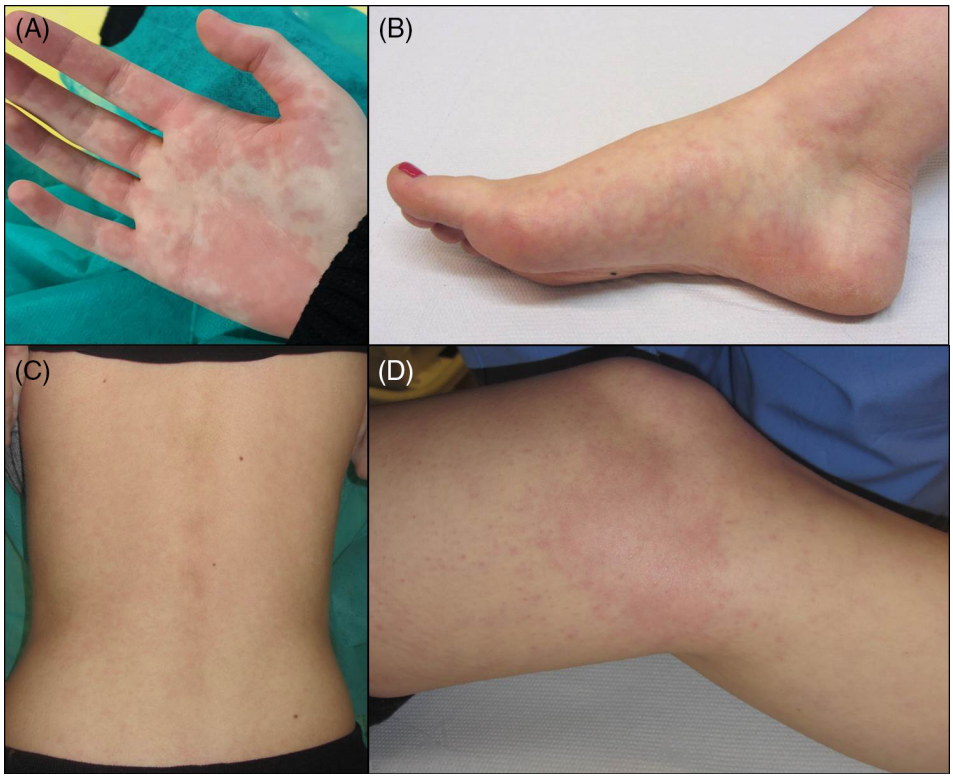

FIGURE 1 Skin rash in COVID-19 patient. Confluent erythematous macules in A,B, acral areas, C, trunk, and D, left knee

swab was negative for COVID-19, and the patient was discharged.

Skin rash[1] and myopericarditis[5] could be clinical signs of COVID-19 presentation, in absence of respiratory symptoms. Colchicine plays an anti-inflammatory action, tapering the inflammatory cascade linked to IL-1β pathway,[6] and inhibiting the assembly of the NOD-like receptor family, pyrin domain containing 3 inflammasome.[7] Its role in the treatment of COVID-19 is under study.[8]

This case highlights the relevance of both cutaneous and cardiac signs as presenting manifestations of COVID-19 infection, even in absence of respiratory symptoms. In our case, the rapid response and the fast swab negativity to colchicine treatment confirm the possible important role of this antiinflammatory therapy in the cure of this infection.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

All authors had the same contribution in conducing this manuscript.

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REFERENCES

1. Recalcati S. Cutaneous manifestations in COVID-19: a first perspective. *J Eur Acad Dermatol Venereol*. 2020;34(5):e212-e213.
2. Conforti C, Giuffrida R, Zalaudek I, di Meo N. Doxycycline, a widely used antibiotic in dermatology with a possible anti-inflammatory action against IL-6 in COVID-19 outbreak. *Dermatol Ther*. 2020 [Epub ahead of print]. https://doi.org/10.1111/dth.13437.
3. Jean SS, Lee PI, Hsueh PR. Treatment options for COVID-19: the reality and challenges. *J Microbiol Immunol Infect*. 2020;53:436-443. https://doi.org/10.1016/j.jmii.2020.03.034.
4. Shishak M, Sarkar R. Dermatological therapies with relevance to COVID-19. *Dermatol Ther*. 2020 [Epub ahead of print]. https://doi.org/10.1111/dth.13813.
5. Inciardi RM, Lupi L, Zaccone G, et al. Cardiac involvement in a patient with coronavirus disease 2019 (COVID-19). *JAMA Cardiol*. 2020 [Epub ahead of print]. https://doi.org/10.1001/jamacardio.2020.1096.
6. Leung YY, Yao Hui LL, Kraus VB. Colchicine: update on mechanisms of action and therapeutic uses. *Semin Arthritis Rheum*. 2015;45:341-350.
7. Misawa T, Takahama M, Kozaki T, et al. Microtubule-driven spatial arrangement of mitochondria promotes activation of the NLRP3 inflammasome. *Nat Immunol*. 2013;14:454-460.
8. Deftereos SG, Siasos G, Giannopoulos G, et al. The Greek study in the effects of colchicine in COVID-19 complications prevention (GRECCO-19 study): rationale and study design. *Hellenic J Cardiol*. 2020 [Epub ahead of print]. https://doi.org/10.1016/j.hjc.2020.03.002.