



Case Report

Erythema multiforme eruption due to SARS-COV 2: Case report

Sara Bouabdella^{a,*}, Mounia Benkaraache^a, Yousef Almheirat^a, Nada Zizi^{a,b}, Siham Dikhaye^{a,b}^a Department of Dermatology, Mohammed the VIth University Hospital of Oujda, Morocco^b Laboratory of Epidemiology, Clinical Research and Public Health, Faculty of Medicine and Pharmacy, Mohamed the First University of Oujda, Morocco

ARTICLE INFO

Keywords:

Erythema multiforme
Targetoid eruption
COVID 19
SARS-Cov 2

ABSTRACT

Introduction: and importance: The COVID-19 is a global pandemic that is now responsible for more than 3 million deaths around the world. Its cutaneous manifestations in patients are being increasingly reported. This case brings additional data implementing the knowledge on the dermatological signs during COVID-19.

Case presentation: We report a new pattern with erythema multiforme (EM) lesions in a healthy patient with COVID-19 infection and no other medical background.

Clinical discussion: We are facing challenging times in Dermatology. New information and cutaneous manifestations possibly related to COVID-19 are emerging every day. There are only a few case reports describing EM in patients with COVID-19.

Conclusion: We suggest that this EM might be another pattern of exanthem associated with COVID-19 infection. Further studies are needed to evaluate whether these lesions are associated with the virus, the drug intake or any other conditions.

1. Introduction

Since December 2019, COVID-19 has spread throughout the world at a staggering pace, gradually becoming a pandemic. Although known to primarily affect the lungs and the respiratory function, recent reports from around the world have brought to our attention the possibility of cutaneous involvement [1]. It may present with different types of cutaneous manifestations of varying pathophysiology. We report the observation a new pattern with erythema multiforme (EM) lesions in a patient with COVID-19 infection.

Our case report was written according to CARE guidelines [2].

2. Case presentation

A 63-year-old female patient, with no medical history, had been diagnosed with COVID-19 and treated by azithromycin associated with zinc and vitamin C. On the 15th day of the onset of symptoms, she developed erythematous maculopapular atypical targetoid eruption distributed over low members and erythematous lesions on the trunk (Fig. 1). Lesions were painless and mild itching. There was no mucosal involvement. No recent episode of recurrent herpes was reported. **The patient had no previous medical history of a similar eruption and there was no similar cases in the patient's family.**

Complete blood count, biochemical parameters and serological tests including Herpes simplex virus Ig M and Ig G, Epstein-Barr virus Ig M and Ig G, Cytomegalovirus Ig M and Ig G, Hbs Ag, Anti HCV ve were within normal limits. The patient was clinically diagnosed with Erythema multiforme and all medications were stopped. Differential diagnoses included drug reaction with eosinophilia and systemic symptoms and toxic shock syndrome.

On the 3rd day of the eruption, the cutaneous lesions regressed considerably (Fig. 2), and the patient was discharged without any complications. **The patient was very satisfied after the improvement in her clinical condition. After several medical visits, the patient has not developed any other lesions for 6 months.**

3. Discussion

Cutaneous manifestations in patients with COVID-19 infection are increasingly being reported. Several patterns have been described [3]. Erythema multiforme (EM) is an acute, immune-mediated disease characterized by target-like cutaneous lesions [4]. It consists of a polymorphous eruption of macules, papules and characteristic 'target' lesions that are symmetrically distributed with a propensity for the distal extremities [5]. Many factors, including infections, medications, malignancy, autoimmune disorders, radiation, and sarcoidosis have been

* Corresponding author. Apt 127, 1st floor, Lot la colline Oujda, Morocco. Tel.: +212 661879202

E-mail address: sbouabdella@gmail.com (S. Bouabdella).

<https://doi.org/10.1016/j.amsu.2021.102591>

Received 6 June 2021; Received in revised form 20 July 2021; Accepted 25 July 2021

Available online 26 July 2021

2049-0801/© 2021 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).



Fig. 1. Targetoid lesions of lower limbs.



Fig. 2. Disappearance of lesions after 3 days.

associated with EM. There are only a few case reports describing EM in patients with COVID-19 [3]. Robustelli Test et al. reported a case of acute generalized exanthematous pustulosis accompanying by EM-like lesions in a 70-year-old patient with COVID-19 under hydroxychloroquine treatment [6]. Jimenez-Cauhe et al. observed EM-like eruption in four patients with COVID-19. All patients were managed

with systemic corticosteroids with resolution of the cutaneous lesions within 2–3 weeks. They concluded that EM-like exanthem might be a peculiar pattern of exanthem associated with COVID-19 [7].

Janah et al. identified atypical palmar EM lesions in two patients with COVID-19. They suggested that the eruption might be associated with SARS-CoV-2 rather than hydroxychloroquine or other infectious agents [5]. New information and details of cutaneous manifestations possibly related to COVID-19 are emerging every day. Further studies are needed to evaluate whether these lesions are associated with the virus, the drugs used or any other conditions [3]. EM is linked to infectious agents in 90% of cases, while drug-associated EM is reported in less than 10%. Herpes simplex virus and *Mycoplasma pneumoniae* are the main agents, but other viruses have been reported, such as adenovirus, coxsackievirus and parvovirus B19 [3].

In our patient, the lesions might also be related to COVID-19. We also hypothesized that the drugs administered to our patient might potentiate the cutaneous reaction induced by SARS-CoV-2.

4. Conclusion

We report a patient with diagnosis of COVID-19 presenting erythema multiforme lesions. We suggest that this EM-like or target-like exanthem might be another pattern of exanthem associated with COVID-19 infection.

Sources of funding

None.

Ethical approval

The ethical committee approval was not required give the article type (case report). However, the written consent to publish the clinical data of the patients was given and is available to check by the handling editor if needed.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

Sara Bouabdella: Study concept, Data collection, Data analysis, Writing the paper. Mounia Benkaraache: Contributor. Yousef Joudeh: Contributor. Nada Zizi: Supervision and data validation. Siham Dikhayeh: Supervision and data validation.

Research registration

This is not an original research project involving human participants in an interventional or an observational study but a case report. This registration is was not required.

Guarantor

Sara Bouabdella.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Declaration of competing interest

The authors declare no conflict of interest.

Acknowledgments

We would like to thank the team of dermatology of university hospital for their management and availability.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.amsu.2021.102591>.

References

- [1] C. Conforti, C. Dianzani, M. Agozzino, R. Giuffrida, G.F. Marangi, N.D. Meo, N. Neagu, Cutaneous manifestations in confirmed COVID-19 patients: a systematic review, *Biology* 9 (12) (2020) 449.
- [2] S. Riley David, CARE guidelines for case reports: explanation and elaboration document, *J. Clin. Epidemiol.* 89 (2017) 218–235, <https://doi.org/10.1016/j.jclinepi.2017.04.026>.
- [3] J. Jimenez-Cauhe, D. Ortega-Quijano, I. Carretero-Barrio, A. Suarez-Valle, D. Saceda-Corralo, C. Moreno-Garcia del Real, D. Fernandez-Nieto, Erythema multiforme-like eruption in patients with COVID-19 infection: clinical and histological findings, *Clin. Exp. Dermatol.* 45 (7) (2020) 892–895.
- [4] A. Demirbaş, Ö.F. Elmas, M. Atasoy, Ü. Türsen, T. Lotti, A case of erythema multiforme major in a patient with COVID 19: the role of corticosteroid treatment, *Dermatol. Ther.* (2020).
- [5] H. Janah, A. Zinebi, J. Elbenaye, Atypical erythema multiforme palmar plaques lesions due to Sars-Cov-2, *J. Eur. Acad. Dermatol. Venereol.* 34 (8) (2020) e373–e375.
- [6] E. Robustelli Test, P. Vezzoli, A. Carugno, F. Raponi, A. Gianatti, F. Rongioletti, P. Sena, Acute generalized exanthematous pustulosis with erythema multiforme-like lesions induced by Hydroxychloroquine in a woman with coronavirus disease 2019 (COVID-19), *J. Eur. Acad. Dermatol. Venereol.* 34 (9) (2020) e457–e459.
- [7] J. Jimenez-Cauhe, D. Ortega-Quijano, I. Carretero-Barrio, A. Suarez-Valle, D. Saceda-Corralo, C. Moreno-Garcia del Real, D. Fernandez-Nieto, Erythema, 2020.