

Archive ouverte UNIGE

https://archive-ouverte.unige.ch

Article scientifique

Rapport de cas

2020

Published version

Open Access

This is the published version of the publication, made available in accordance with the publisher's policy.

Special dermatological presentation of paediatric multisystem inflammatory syndrome related to COVID-19: erythema multiforme

Bapst, Thomas Léo; Romano, Fabrizio; Müller, Marie; Rohr, Marie Madeleine

How to cite

BAPST, Thomas Léo et al. Special dermatological presentation of paediatric multisystem inflammatory syndrome related to COVID-19: erythema multiforme. In: BMJ Case Reports, 2020, vol. 13, n° 6, p. e236986. doi: 10.1136/bcr-2020-236986

This publication URL: https://archive-ouverte.unige.ch/unige:157727

Publication DOI: 10.1136/bcr-2020-236986

© The author(s). This work is licensed under a Other Open Access license https://www.unige.ch/biblio/aou/fr/guide/info/references/licences/

Special dermatological presentation of paediatric multisystem inflammatory syndrome related to COVID-19: erythema multiforme

Thomas Bapst, ¹ Fabrizio Romano, ^{2,3} Marie Müller, ¹ Marie Rohr ⁶

¹General Pediatrics Unit, University Hospital Geneva Children's Hospital, Geneve, Switzerland ²Pediatric Emergency Department, Inselspital Universitatsspital Bern, Bern, Switzerland ³Pediatric Emergency Department, University Hospital Geneva Children's Hospital, Geneve, Switzerland ⁴Infectious Disease Unit, University Hospital Geneva Children's Hospital, Geneve, Switzerland

Correspondence to Dr Marie Rohr; marie.rohr@hcuge.ch

Accepted 19 June 2020

DESCRIPTIONA previously h

A previously healthy 13-year-old boy was hospitalised in April 2020 following 7 days of fever along with abdominal and thoracic pain, odynodysphagia and a new skin eruption first seen on the day of admission. Besides paracetamol, there were no other current treatments. Our patient's mother developed anosmia and ageusia 3 weeks before and his father had flu-like symptoms at the same time. He had already been tested twice for severe acute respiratory syndrome coronavirus-2 (SARS-COV2) by nasopharyngeal swab in the days before his admission, with negative RT-PCR.

On clinical examination, diffuse abdominal tenderness and a rash were found. The rash consisted of four isolated round papular lesions on his left shoulder with a central dark red zone surrounded by a pale ring of oedema and an erythematous halo on the extreme periphery, compatible with the target lesions of erythema multiforme (EM).

Laboratory investigations showed elevated inflammatory signs (C reactive protein 265 mg/L, procalcitonin of 2.71 µg/L). The complete blood count showed lymphopaenia (0.93 g/L) and throm-bocytopaenia (104 g/L). A full sepsis work-up was negative and apart from slightly elevated troponins (0199 µg/L), there were no signs for organ dysfunction. Chest x-ray and echocardiography were initially within normal limits and abdominal CT scan showed multiple peritoneal lymph nodes.

Given the severe inflammatory syndrome, an empiric antibiotic treatment with ceftriaxone was started.

On day 2, the number of target lesions increased substantially with a generalised symmetrical distribution (figure 1A,B). The mucous membranes were involved in the form of isolated conjunctivitis. Suspecting *Mycoplasma pneumoniae* infection, antibiotic therapy was extended with azithromycin. On day 4, the patient developed symptoms and radiological signs of bibasal pneumonia on chest CT scan without any need for oxygen or respiratory support.

SARS-COV-2 recent contact was confirmed by positive serology (IgA and IgG by ELISA, confirmed by immunofluorescence), while the most common infectious pathogens linked to EM (*Mycoplasma pneumoniae*, Epstein-Barr virus, Herpes simplex virus 1 and 2, adenovirus and parvovirus B19) were excluded.

The patient could be discharged on day 7 with complete resolution of clinical symptoms including



Figure 1 The rash consisted of isolated round papular lesions with a central dark red zone surrounded by a pale ring of oedema and an erythematous halo on the back (A) and the extreme periphery (B), compatible with the target lesions of EM. EM, erythema multiforme.

EM. In a follow-up visit 3 weeks after being discharged, he was asymptomatic, and laboratory tests and echocardiography were normal.

Our case reflects the recently described cases of paediatric hyperinflammatory syndrome in children during COVID-19 pandemic. The WHO has defined this new syndrome associated with

Patient's perspective

Before and during the hospitalization I was very tired, I couldn't walk because my muscles were very sore, it was hard to breathe and to eat because I had a sore throat. I vomited as soon as I had fever and I had abdominal pain at the beginning of my illness. During the hospitalization I was stressed and anxious because every day I saw the doctors who told me that they didn't know what was wrong with me.

Learning points

- ► The rash associated with the multisystem inflammatory syndrome in children and adolescents temporally related with COVID-19 could be an erythema multiforme (EM).
- EM could be one of the first symptoms of this new syndrome.



© BMJ Publishing Group Limited 2020. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Bapst T, Romano F, Müller M, et al. BMJ Case Rep 2020;13:e236986. doi:10.1136/bcr-2020-236986

Images in...

COVID-19 on 15 May 2020. It was called 'Multisystem inflammatory syndrome in children and adolescents (MIS-C) temporally related to COVID-19'. Our patient completed this case definition, he presented more than 3 days of fever, a rash and non-purulent conjonctivitis, associated with features of myocardial dysfonction with elevated tropinin and acute gastrointestinal problems. He completed also the criteria of elevated markers of inflammation and the evidence of COVID-19 by serology, without other microbial cause of inflammation.

We conclude that our patient presented a multisystem inflammatory syndrome in children and adolescents (MIS-C) temporally related to COVID-19 associated with an erythema multiforme. To our knowledge, this is the first described case of EM in this context in paediatric age.

Contributors TB wrote the clinical case. FR and MM added corrections and made modifications. MR added corrections, made modifications and supervied TB to write.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Parental/quardian consent obtained.

Provenance and peer review Not commissioned: externally peer reviewed.

This article is made freely available for use in accordance with BMJ's website terms and conditions for the duration of the covid-19 pandemic or until otherwise determined by BMJ. You may use, download and print the article for any lawful, non-commercial purpose (including text and data mining) provided that all copyright notices and trade marks are retained.

ORCID in

Marie Rohr http://orcid.org/0000-0002-3343-7028

REFERENCES

- 1 Riphagen S, Gomez X, Gonzalez-Martinez C, et al. Hyperinflammatory shock in children during COVID-19 pandemic. Lancet 2020;395:1607–8.
- 2 Deza Leon MP, Redzepi A, McGrath E, et al. COVID-19 associated pediatric multisystem inflammatory syndrome. J Pediatric Infect Dis Soc 2020. doi:10.1093/jpids/ piaa061. [Epub ahead of print: 22 May 2020].
- 3 Verdoni L, Mazza A, Gervasoni A, et al. An outbreak of severe Kawasaki-like disease at the Italian epicentre of the SARS-CoV-2 epidemic: an observational cohort study. *Lancet* 2020;395:1771–8.
- 4 World Health Organization. Multisystem inflammatory syndrome in children and adolescents temporally related to COVID-19. Available: https://www.who.int/newsroom/commentaries/detail/multisystem-inflammatory-syndrome-in-children-andadolescents-with-covid-19 [Accessed 15 May 2020].

Copyright 2020 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit https://www.bmj.com/company/products-services/rights-and-licensing/permissions/
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ► Submit as many cases as you like
- ► Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ► Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

Customer Service

If you have any further queries about your subscription, please contact our customer services team on +44 (0) 207111 1105 or via email at support@bmj.com.

Visit casereports.bmj.com for more articles like this and to become a Fellow