

# 11.

## DERMATOLOGY-PEDIATRICS

### CHAPTER

# MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN RELATED TO CORONAVIRUS DISEASE-19: IMPORTANCE OF CUTANEOUS SIGNS

*Zeynep TOPKARCI<sup>1</sup>*

*Nihal AKÇAY<sup>2</sup>*

### BACKGROUND

The novel 2019 Coronavirus Disease (COVID-19) caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is a current global issue and declared as a pandemic. As the experience and duration of the pandemic increase, reported cutaneous manifestations accordingly increase in all age groups including the children. The cutaneous manifestations of COVID-19 are various including maculopapular, chilblain-like, urticarial, vesicular, livedoid, and petechial lesions (1). Although COVID-19 presented with mild symptoms in children and young adults, recently a new and serious entity described as Multisystem inflammatory syndrome (MIS-C), which demonstrates some clinical symptoms of Kawasaki Disease. Periorbital edema, conjunctivitis, erythematous and urticarial rash, and palmar and plantar edema are the most defined mucocutaneous signs in MIS-C cases (2). The dermatologists must be aware of the condition and suspect COVID-19 especially in pediatric cases with these signs.

<sup>1</sup> MD, Dermatologist, İstanbul Bakirkoy Dr.Sadi Konuk Training and Research Hospital, Department of Dermatology E mail: ztopkarci@yahoo.com

<sup>2</sup> MD, Pediatric Intensive Care Unit, Department of Pediatrics, University of Health Sciences, Bakirkoy Dr Sadi Konuk Training and Research Hospital, İstanbul, Turkey. e-mail: drnihalakcay@gmail.com

## TAKE HOME MESSAGES

- COVID-19 is still pandemic and every day we can learn new clinical faces of the disease
- Not only adults, pediatric and adolescent age may also encounter severe forms of COVID-19
- Multisystem inflammatory syndrome in children (MIS-C) is a newly described disease that occurs in COVID-19 infection, where various organ systems can be involved such as the heart, pulmonary system, renal system, brain, skin, eyes, or gastrointestinal organs.
- Cutaneous signs of COVID-19 may be the initial symptom of the disease, so dermatologists should be aware of cutaneous signs of COVID-19.

## CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

## FINANCIAL DISCLOSURE

The author declared that this case report has received no financial support.

## REFERENCES

1. Recalcati S. Cutaneous manifestations in COVID-19: a first perspective. *J Eur Acad Dermatol Venereol*, 2020;34(5):212-213.
2. Klejtman T. Skin and COVID-19. *J Med Vasc*, 2020;45:175-176.
3. van Damme C, Berlingin E, Saussez S, et al. Acute urticaria with pyrexia as the first manifestations of a COVID-19 infection. *J Eur Acad Dermatol Venereol*, 2020;34:300-301.
4. Dong Y, Mo X, Hu Y, et al. Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China. *Pediatrics* 2020. doi: 10.1542/peds.2020-0702.2.
5. Riphagen S, Gomez X, Gonzalez-Martinez C, et al. Hyperinflammatory shock in children during COVID-19 pandemic. *The Lancet*, 2020;395(10237):1607-1608.
6. Verdoni L, Mazza A, Gervasoni A. An outbreak of severe Kawasaki-like disease at the Italian epicentre of the SARS-CoV-2 epidemic: an observational cohort study. *The Lancet*, 2020;395(10239):1771-1778.
7. Royal College of Paediatrics and Child Health. Guidance: paediatric multisystem inflammatory syndrome temporally associated with COVID-19. [www.rcpch.ac.uk/resources/guidance-paediatric-multisystem-inflammatory-syndrome-temporally-associated-covid-19](http://www.rcpch.ac.uk/resources/guidance-paediatric-multisystem-inflammatory-syndrome-temporally-associated-covid-19) (accessed August 5, 2020).
8. Centers for Disease Control and Prevention. Emergency preparedness and response: health alert network. Published May 14, 2020. [emergency.cdc.gov/han/2020/han00432.asp](http://emergency.cdc.gov/han/2020/han00432.asp) (accessed August 5, 2020).
9. World Health Organization. Multisystem inflammatory syndrome in children and adolescents with COVID-19. Published May 15, 2020. [www.who.int/publications-detail/multisystem-inflammatory-syndrome-in-children-and-adolescents-with-covid-19](http://www.who.int/publications-detail/multisystem-inflammatory-syndrome-in-children-and-adolescents-with-covid-19)(accessed August 5, 2020).
10. Ng KF, Kothari T, Bandi S, et al. COVID-19 multisystem inflammatory syndrome in three teenagers with confirmed SARS-CoV-2 infection. *J Med Virol*. 2020;10.1002/jmv.26206. doi:10.1002/jmv.26206.

11. Radia T, Williams N, Agrawal P, et al. Multi-system inflammatory syndrome in children & adolescents (MIS-C): A systematic review of clinical features and presentation. *Paediatr Respir Rev*, 2020;11:S1526-0542(20)30117-2. doi: 10.1016/j.prrv.2020.08.001.
12. Ahmed M, Advani S, Moreira A, et al. Multisystem inflammatory syndrome in children: A systematic review. *Clinical Medicine*, 2020;26:100527.