Letters to the Editor

Case Report: Multisystem Inflammatory Syndrome in a Child Presenting with Rash and Fever

Published online August 3, 2020.

To the Editor: A mother brought her 22-month-old child to our outpatient health center with a generalized rash and fever. Patient history included febrile seizures, overweight (greater than the 99th percentile), reactive airway disease, and eczema. The child had been tugging their ears for four days and had a rash on the cheeks that spread to the trunk and extremities. Two months earlier, six household members tested positive for coronavirus disease 2019 (COVID-19).

The physical examination was notable for fever (102°F [38.9°C]); tachypnea (respiratory rate of 22 breaths per minute); bilateral ear cerumen; and a diffuse macular rash that was blanchable, erythematous, and warm. We presumed a diagnosis of multisystem inflammatory syndrome and referred the child to the emergency department where the patient had two witnessed generalized tonic-clonic seizures. A COVID-19 test was negative, and an immunoglobulin G antibody test was positive. Inflammatory markers were elevated, including erythrocyte sedimentation rate (27 mm per hour), C-reactive protein (38.8 mg per dL [388 mg per L]), D-dimer (1.90 mcg per mL [10.40 nmol per L]), and interleukin-6 (47.9 pg per mL). White blood cell count, ferritin, fibrinogen, and lactic acid dehydrogenase values were within normal limits. Pro–brain natriuretic peptide (pro-BNP) was 131 pg per mL (131 ng per L). Respiratory viral panel results were negative. The child received one dose of intravenous ceftriaxone (Rocephin) for suspected otitis media and was admitted to the intensive care unit. During the hospital stay, bilateral angular stomatitis developed with painful vesicular lesions on the tongue with rising inflammatory markers and an extremely elevated pro-BNP level of 2,900 pg per mL (2,900 ng per L). Echocardiogram results were normal. After three days of enoxaparin (Lovenox) and intravenous immunoglobulin at 2 g per kg, the patient had improved oral intake, resolution of fever, and a downtrend in inflammatory markers. The patient was discharged on low-dose aspirin and referred to cardiology for a repeat echocardiogram in four weeks.

Symptoms of multisystem inflammatory syndrome in children often overlap with those of other childhood inflammatory diseases (e.g., Kawasaki disease),[1,2] making it difficult to diagnose.[3] Patients who present with fever, rash, abdominal or chest pain, conjunctivitis, or oral mucosal erythema should be evaluated with pulse oximetry monitoring. Laboratory testing should include a complete blood count with differential, comprehensive metabolic panel, erythrocyte sedimentation rate, and C-reactive protein and ferritin levels.[4]

My Dung Ha, DO
Allentown, Pa.
Email: mydung.ha@lvhn.org

Ashwini Kamath Mulki, MD
Allentown, Pa.

Author disclosure: No relevant financial affiliations.

References

1. Dufort EM, Koumans EH, Chow EF, et al. Multisystem inflammatory syndrome in children in New York State. *N Engl J Med*. 2020;383(4):347-358.
2. Feldstein LR, Rose EB, Horwitz SM, et al. Multisystem inflammatory syndrome in U.S. children and adolescents. *N Engl J Med*. 2020;383(4):334-346.
3. Chiotos K, Bassiri H, Behrens EM, et al. Multisystem inflammatory syndrome in children during the COVID-19 pandemic: a case series. *J Pediatric Infect Dis Soc*. 2020;9(3):393-398.
4. Ramcharan T, Nolan O, Lai CY, et al. Paediatric inflammatory multisystem syndrome: temporally associated with SARS-CoV-2 (PIMS-TS): cardiac features, management and short-term outcomes at a UK tertiary paedi-

Send letters to afplet@aafp.org, or 11400 Tomahawk Creek Pkwy., Leawood, KS 66211-2680. Include your complete address, email address, and telephone number. Letters should be fewer than 400 words and limited to six references, one table or figure, and three authors.

Letters submitted for publication in *AFP* must not be submitted to any other publication. Possible conflicts of interest must be disclosed at time of submission. Submission of a letter will be construed as granting the AAFP permission to publish the letter in any of its publications in any form. The editors may edit letters to meet style and space requirements.

This series is coordinated by Kenny Lin, MD, MPH, deputy editor.

Downloaded from the American Family Physician website at www.aafp.org/afp. Copyright © 2020 American Academy of Family Physicians. For the private, noncommercial use of one individual user of the website. All other rights reserved. Contact copyrights@aafp.org for copyright questions and/or permission requests.

atric hospital [published online June 12, 2020]. *Pediatr Cardiol*. Accessed June 17, 2020. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7289638/pdf/246_2020_Article_2391.pdf

COVID-19's Impact on Health Disparities

To the Editor: As family physicians, we understand how social determinants of health, such as poverty and unemployment, influence health disparities within our communities. The coronavirus disease 2019 (COVID-19) pandemic will have long-term economic impacts. After peaking at 14.7% in April, the U.S. unemployment rate is currently 10.2% higher than the 2008 recession's worst month of 10% unemployment.[1] The increases in those who are unemployed and without health insurance make it harder to care for our patients, particularly patients with chronic diseases who require ongoing care that they may no longer be able to afford. Unfortunately, chronic diseases are linked to worse outcomes in patients with COVID-19. Ultimately, the economic impact of the pandemic and public health control measures will exacerbate existing disparities.

This new recession is linked to an increased risk of housing insecurity. As employers cut back work hours or lay off employees, more people are unable to pay rent or are late on their payments.[2] Multiple state-sponsored eviction and mortgage protection bills are in effect, but most have expired or will soon. The federal Coronavirus Aid, Relief, and Economic Security (CARES) Act expired at the end of August.[3] Patients cannot prioritize medications if they are more concerned about finding shelter.

The nonprofit organization, Feeding America, reports significantly higher levels of food insecurity and projects that food insecurity may ultimately affect one out of three adults and one out of two children within the United States.[4] Food banks are seeing a 98% increase in demand, and 60% are running low on resources since the pandemic began.[5] Without food and housing security, how can patients hope to control chronic health conditions?

Before COVID-19, family physicians were already well acquainted with the struggles of socioeconomically disadvantaged patients. In the short term, physicians should refer patients with social needs to appropriate assistance programs available through websites such as https://www.usa.gov/ and https://www.usda.gov/. There is now an opportunity for us to lead and partner with our communities to create long-term, comprehensive solutions to social and health inequities. Family physicians must advocate for additional resources by contacting our policymakers. Together, our collective voice can lift up our patients and increase social justice.

Bryan P. Grove, MD
Charlotte, N.C.
Email: Bryan.Grove@atriumhealth.org

Carmela Ver, MD
Charlotte, N.C.

Sveta Mohanan, MD
Charlotte, N.C.

Author disclosure: No relevant financial affiliations.

References

1. Jones C. Trump's unemployment rates are still worse than Obama's highest numbers. *Forbes*. July 4, 2020. Accessed July 10, 2020. https://www.forbes.com/sites/chuckjones/2020/07/04/trumps-unemployment-rates-are-still-worse-than-obamas-highest-numbers/#426a0b1b1ce2
2. National Multifamily Housing Council. Rent payment tracker. Accessed July 13, 2020. https://www.nmhc.org/research-insight/nmhc-rent-payment-tracker/
3. Coronavirus Aid, Relief, and Economic Security Act. H.R. 748. Accessed July 13, 2020. https://www.congress.gov/116/bills/hr748/BILLS-116hr748enr.pdf
4. Feeding America. Feeding America study projects local food insecurity rates amid pandemic could reach up to 1 in 3 adults and 1 in 2 children. May 20, 2020. Accessed July 13, 2020. https://www.feedingamerica.org/about-us/press-room/feeding-america-study-projects-local-food-insecurity-rates-amid-pandemic-could
5. National Institute for Health Care Management Foundation. The current state of food insecurity in America. Accessed July 10, 2020. https://www.nihcm.org/categories/the-current-state-of-food-insecurity-in-america

Case Report: Multiple Myiasis from *Dermatobia hominis* After Travel to Costa Rica

To the Editor: A 19-year-old, healthy-appearing White man reported to his university's health clinic with a three-week history of pruritic lesions on his right dorsal foot, left anterior shin, and left posterior thigh. Other symptoms included bleeding, warmth, and occasional shooting pain localized to the lesions. His travel history included a one-and-a-half-week vacation to Costa Rica three to four weeks before the lesions developed. The patient could not recall any insect bites and reported no exposure to fresh water or the rainforest, and his travel companions were

unaffected. He was prescribed a three-day course of the antiparasitic agent albendazole (Albenza) and was referred to a dermatologist.

When the patient presented to the dermatologist one week later, the lesions were pruritic and tender, approximately 1.5 cm in diameter, erythematous, and nodular with an indurated center and bloody discharge. The patient had no fever, malaise, or lymphadenopathy. A 4-mm punch biopsy on the left shin did not reveal any insects. At the 10-day follow-up, the two other lesions were incised and a larva was extracted from each. A photograph *(Figure 1)* was sent to the Centers for Disease Control and Preventions' Parasitology Division and the larva was identified as the human botfly (*Dermatobia hominis*). The incisions were closed, and sutures were removed two weeks later. All sites healed well without recurrence.

Botfly myiasis is common in Central and South America, but cases have increased in the United States because of tourism.[1] Eggs are transferred by a vector (typically mosquitos), hatch immediately, and enter the skin through a bite puncture. The larva protrudes its breathing tube, burrows deeper, and develops over five to 10 weeks, presenting as a furuncular lesion with a central opening and pruritus, pain, and serosanguineous discharge.[2] Patients often do not recall exposure to a vector but may have swum in fresh water or hiked in a warm, humid climate.[3] Myiasis is possible without obvious exposures and should be considered in patients who develop lesions after traveling to endemic areas. In these areas, cutaneous myiasis is often treated with an occlusive, which suffocates the larva and forces it to emerge.[4]

FIGURE 1

***Dermatobia hominis* larva with spikes intact removed from the left posterior thigh.**

Surgical removal of the larva using a local anesthetic is curative. Prophylactic antibiotics can be prescribed, and an antiparasitic (e.g., ivermectin [Stromectol]) is recommended in patients with multiple myiasis.[5] Misdiagnosis causes persistent discomfort and can result in secondary bacterial infection.[2] These findings highlight the clinical importance of including botfly infestations in the differential diagnosis of travelers to Central and South America.

Shara Chopra, BS, BA
State College, Pa.
Email: schopra1@pennstatehealth.psu.edu

David L. Shupp, MD
State College, Pa.

Author disclosure: No relevant financial affiliations.

References

1. Toussaint-Caire S, Woroszylski-Yoselevitz A, Vega-Memije ME, et al. Imported and autochthonous cases of myiasis caused by *Dermatobia hominis*: taxonomic identification using the internal transcribed spacer region. *Am J Trop Med Hyg*. 2018;99(4):940-944.
2. Solomon M, Lachish T, Schwartz E. Cutaneous myiasis. *Curr Infect Dis Rep*. 2016;18(9):28.
3. Mahal JJ, Sperling JD. Furuncular myiasis from *Dermatobia hominus*: a case of human botfly infestation. *J Emerg Med*. 2012;43(4):618-621.
4. West JK. Simple and effective field extraction of human botfly, Dermatobia hominis, using a venom extractor. *Wilderness Environ Med*. 2013;24(1):17-22.
5. Velev V, Dinkova M, Mirtschew A. Human botfly infection. *QJM*. 2019;112(7):529-530.

Case Report: Handwashing-Induced Dermatitis During the COVID-19 Pandemic

To the Editor: During the coronavirus disease 2019 (COVID-19) pandemic, everyone has been advised to wash their hands more often. The Centers for Disease Control and Prevention recommends handwashing for 20 seconds or using a hand sanitizer with 60% or more alcohol if soap and water are inaccessible.[1] Several reports have described cutaneous complications that health care workers have experienced as a result of these enhanced prevention measures.[2,3]

A 64-year-old patient developed irritant contact dermatitis on the hands following repeated handwashing with standard dish soap to help reduce the transmission of COVID-19. By day 5, erythematous, eczematous patches were visualized on the dorsal aspects of the hands *(Figure 1)*. The patient reported significant discomfort, prompting the patient to alter handwashing by avoiding

FIGURE 1

Diffuse erythematous patches present on bilateral dorsal hands.

the affected areas of the hands. Over-the-counter skin care products were used, including a cream with little benefit and emollients that provided significant relief. Following five days of using emollients and abstaining from washing the dorsal hands, the patient reported complete resolution of symptoms.

Clinicians need to educate patients and the general public on the prevention of hand dermatitis and effective strategies for symptom management. This education is especially relevant for patients with risk factors, including a history of atopic dermatitis, asthma, tobacco smoking, dry skin, and wet work (e.g., washing dishes, watering plants).[4]

COVID-19 shows low resistance to disinfectants, such as hand sanitizer.[5] Therefore, we recommend the use of hand sanitizers with moisturizing ingredients such as glycerin as an alternative to handwashing with soap.[6] If the patient does not have access to hand sanitizer with moisturizer, we recommend the regular use of emollients after each wash with soap and water. At bedtime, patients can apply a thick coat of lipid-rich ointment (such as CeraVe healing ointment, Aquaphor, or even Vaseline petroleum jelly) followed by wearing cotton gloves overnight. Encourage the use of gloves with a cotton liner on dry hands whenever the patient is performing wet work. During a flare-up, an over-the-counter topical corticosteroid is an effective first-line treatment.[4] Patients should be advised to avoid hot water (hotter than 122°F [50°C]) because this may exacerbate symptoms. If patients continue to experience significant pain and blistering, referral to a dermatologist is warranted.

Katie A. O'Connell, MS

Clinton W. Enos, MD

Edward Prodanovic, MD
Norfolk, Va.
Email: eprodano7@gmail.com

Author disclosure: No relevant financial affiliations.

References

1. Centers for Disease Control and Prevention. How to protect yourself & others. Accessed April 24, 2020. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html
2. Lan J, Song Z, Miao X, et al. Skin damage among health care workers managing coronavirus disease-2019. *J Am Acad Dermatol.* 2020;82(5):1215-1216.
3. Lin P, Zhu S, Huang Y, et al. Adverse skin reactions among healthcare workers during the coronavirus disease 2019 outbreak: a survey in Wuhan and its surrounding regions. *Br J Dermatol.* 2020;183(1):190-192.
4. Silvestre Salvador JF, Heras Mendaza F, Hervella Garcés M, et al. Guidelines for the diagnosis, treatment, and prevention of hand eczema. *Actas Dermosifiliogr.* 2020;111(1):26-40.
5. Kratzel A, Todt D, V'Kovski P, et al. Inactivation of severe acute respiratory syndrome coronavirus 2 by WHO-recommended hand rub formulations and alcohols. *Emerg Infect Dis.* 2020;26(7):1592-1595.
6. Pedersen LK, Held E, Johansen JD, et al. Less skin irritation from alcohol-based disinfectant than from detergent used for hand disinfection. *Br J Dermatol.* 2005;153(6):1142-1146. ■