

IMAGES IN EMERGENCY MEDICINE

Dermatology

Pediatric patient presenting to the emergency department for rash

Peter Griffin MD 

Department of Emergency Medicine, Robert C. Byrd Health Sciences Center, West Virginia University, Morgantown, West Virginia, USA

Correspondence

Peter Griffin, MD, Department of Emergency Medicine, West Virginia University, 1 Medical Center Drive, Morgantown, WV 26506, USA.

Email: peter.griffin@hsc.wvu.edu

This article and related case have not been presented at any prior scientific meetings nor been submitted to any other publications. There are no relevant conflicts of interest.

The primary author is entirely responsible for the content of this work.

KEYWORDS

autism, nutritional deficiencies, pellagra, rash

1 | PATIENT PRESENTATION

A 10-year-old autistic male presented to the emergency department for rash. The patient was non-verbal, and the mother provided a history of a rash worsening over the past 2 weeks. The rash started on sun-exposed, flexural surfaces, and the upper chest. The patient's mother stated, "The rash begins like a sunburn." The patient was treated by outpatient physicians with steroids and antibiotics for cellulitis without improvement. The patient had no known allergies or exposures and no recent illnesses. The mother noted that the patient was a "picky eater." The patient had no other medical history. The rash is depicted in Figures 1 and 2.

2 | DIAGNOSIS

2.1 | Pellagra

Hyperpigmented scaling rash presented in flexural surfaces. Pellagra results from inadequate dietary intake of niacin (vitamin B3).¹ Historically, it was associated with poverty in areas reliant on corn as a staple. Since the introduction of fortified cereals in industrialized nations, it has become rare. Clinical presentation is characterized by the four "D's" of dermatitis, diarrhea, dementia, and death. Differential diagnosis includes other nutritional deficiency and photosensitive rashes.



FIGURE 1 Rash on chest and groin.

Diagnosis can be confirmed through vitamin level panel and punch biopsy, and resolution within a few weeks of replacement therapy is expected,³ as was the case in this patient.

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2023 The Authors. *Journal of the American College of Emergency Physicians Open* published by Wiley Periodicals LLC on behalf of American College of Emergency Physicians.



FIGURE 2 Rash on axillae.

Autism spectrum disorder has been identified as a risk factor for vitamin deficiencies secondary to self-imposed dietary restrictions.⁴ Commonly noted nutritional deficiencies associated with autism spectrum disorder include vitamins C, A, B-12, and D deficiency, though more rare vitamin deficiencies have been noted.⁵ Vitamin deficiency

rashes should be considered in autistic patients with food aversions presenting for rash.

ACKNOWLEDGMENTS

Dr Stephanie Rellick, WVU Emergency Medicine Director of Research, helped prepare the institutional review board waiver request.

ORCID

Peter Griffin MD  <https://orcid.org/0009-0005-0257-562X>

REFERENCES

1. Combs GF, McClung JP, eds. *The Vitamins*. 5th ed. Academic Press; 2017.
2. Clay K, Schmick E, Troesken W. The rise and fall of pellagra in the American South. *J Econ Hist*. 2017;79:32-62.
3. Zaenglein A, Martin A, Carlson L, Williams KE. Pellagra secondary to selective eating in a child with autism. *Pediatr Dermatol*. 2020;37(4):698-700.
4. Robea MA, Luca AC, Ciobica A. Relationship between vitamin deficiencies and co-occurring symptoms in autism spectrum disorder. *Medicina*. 2020;56(5):245.
5. Yule S, Wanik J, Holm EM, et al. Nutritional deficiency disease secondary to ARFID symptoms associated with autism and the broad autism phenotype: a qualitative systematic review of case reports and case series. *J Acad Nutr Diet*. 2021;121(3):467-492.

How to cite this article: Griffin P. Pediatric patient presenting to the emergency department for rash. *JACEP Open*. 2023;4:e13065. <https://doi.org/10.1002/emp2.13065>