DOI: https://doi.org/10.53350/pjmhs2115123476

CASE REPORT

Gianotti-Crosti Syndrome in a Child with Recent Covid-19 Infection: A Case Report

[1]YOUSSEF A. ALQAHTANI, [1]AYED A. SHATI, [1]AHMAD A. ALHANSHANI, [2]FAISAL H. TOBEIGEI, [1]SALEH M. ALQAHTANI
[1]Department of Child Health, College of Medicine, King Khalid University, Abha, Saudi Arabia
[2]Department of Internal Medicine, College of Medicine, King Khalid University, Abha, Saudi Arabia
Correspondence to: Youssef A. Alqahtani , E-mail: youssefalqahtani641@gmail.com; Youssef9811@hotmail.com, Cell: 00966554736556

ABSTRACT

Gianotti-Crosti Syndrome is a rare skin disease affecting children at the first years of age. The condition is clinically featured by blisters on the skin of the legs, buttocks and arms. A history of viral infection preceding the disease was reported for many cases. A 12-month-old boy, free of any medical illnesses, was presented with a history of acute-onset rash for five days prior to presentation that was preceded by a history of fever for two days then subsided. The rashes appeared initially on his buttocks, then spread to his upper and lower extremities and trunk. The child had fever, sore throat and coryza symptoms with lethargy. A polymerase chain reaction (PCR) swab was taken to test for SARS-CoV-2, which was positive two weeks before rash onset. All symptoms resolved in 1 week with supportive therapy and the current rashes appeared two weeks later in the patient. Gianotti–Crosti syndrome may follow the active phase of infection for some cases. It should not be misdiagnosed with dermatological simple eruptive disorders. The clinical features for covid-19 associated infection are typical for the well-known clinical picture of the syndrome. The case was reported to improve clinicians' awareness and help in better understanding and reporting cutaneous manifestations of COVID-19.

Keywords: Gianotti-Crosti Syndrome; Infants; Children; covid-19; Corona

INTRODUCTION

Gianotti-Crosti Syndrome is a rare skin disease affecting children aged between nine months and nine years [1]. The condition was first described by Ferdinando Gianotti in 1955 and by Agostino Crosti and Ferdinando Gianotti in 1957 [2,3]. The condition is clinically featured by blisters on the skin of the legs, buttocks and arms. A history of viral infection preceding the disease was reported for many cases [4-6]. Gianotti–Crosti syndrome is also called papular acrodermatitis, papular acrodermatitis of childhood or infantile papular acrodermatitis is characterized by an acute onset of a papular or papulovesicular eruption with a symmetrical distribution [7-8]. The skin eruptions are mainly on the extensor surfaces of the extremities, buttocks, and face [7-10].

Case Presentation: A 12-month-old boy, free of any medical illnesses, was presented with a history of an acute-onset rash for five days prior to presentation that was preceded by a history of fever for two days then subsided. The rashes appeared initially on his buttocks, then spread to his upper and lower extremities and trunk. There was no palm, soles or mouth involvement. No itching was reported. No specific treatment was given apart from supportive therapy, including antipyretics and creams for moistening. The parents reported that the child had complained of fever, sore throat and coryza symptoms with lethargy. A polymerase chain reaction (PCR) swab was taken to test for SARS-CoV-2, which was positive two weeks before rash onset. The patient's family member developed similar symptoms and tested positive SARS-COV-2 PCR swab in the same period.

All symptoms resolved in 1 week with supportive therapy and the current rashes appeared two weeks later in the patient. The parent did not mention any history of similar rash in other family members. The patient and family have no history or risk of hepatitis or any chronic diseases.

Clinical examination: On clinical examination, the patient appeared well, active. The vital signs were within normal ranges. The growth parameter revealed a weight of 10 Kg, length of 74 cm, and head circumference of 47 cm, all parameters within normal and on 50 percentiles on growth charts. Chest, cardiovascular, abdominal and central nervous system examinations were unremarkable.

Skin examination: Symmetric, well-circumscribed erythematous papules and vesicles with some scaling were found scattered over bilateral upper extremities, bilateral lower extremities, and buttocks with notable and abrupt sparing of the chest, abdomen, and back (Figure 1A, B). Based on history and physical examination, all findings were consistent with childhood popular acrodermatitis, commonly known as Gianotti-Crosti syndrome.

The parents were reassured about this condition which is a benign, self-resolving rash without further treatment.

DISCUSSION

Gianotti–Crosti syndrome is a rare but well-known disease worldwide [4,11]. The meticulous magnitude is not known as many cases are not reported. Besides, the disease may be misdiagnosed as the skin lesions may be mistaken with other conditions such as a non-specific viral exanthem. Gianotti–Crosti syndrome is more frequent among children between 1 and 6 years of age [12,13]. Few cases were diagnosed in adolescents and, rarely, in adults [14-17]. The diseases frequency is nearly equal among male and female children, while in adulthood, the disease is more frequent in females [3,5,17]. Gianotti–Crosti syndrome is diagnosed more in spring and summer [18,19]. The disease is most frequent among cases sporadically [19]. Outbreaks most of the time are associated with hepatitis B virus infection[20,21] and Epstein–Barr virus infection [22]. Gianotti–Crosti syndrome is more common in individuals with a family history of atopy, such as atopic dermatitis [22,23].

Figure 1 (A): Erythematous papules over upper extremity

The current case was nearly typical with its clinical presentation, and it was associated with the history of COVID-19 infection, which was not frequently reported. Covid-19 infection in the current cases was confirmed based on PCR for nasal swab after clinical suspicion. Swali RN et al. [24] had a similar case where a 10-month-old boy with a history of atopic dermatitis presented with a new-onset bumpy rash that started seven days prior to presentation. Upon reviewing the symptoms, the mother reported that the patient had fever and cough with a positive SARS-CoV-2 RT-PCR. Also, Brin C et al [25] reported that A 23-year-old man complained of a rash that appeared two days before seeking medical advice. Three weeks preceding skin symptoms,

he had anosmia and dysgeusia together with dyspnea and cough. A nasopharyngeal SARS-CoV-2 reverse transcriptase–PCR (RT-PCR) confirmed the diagnosis of COVID-19.

Figure 1 (B): Erythematous papules and vesicles scattered over buttocks and lower extremities

Although cutaneous manifestations of COVID-19 are rare, all physicians need to be aware of these manifestations for rapid and efficient diagnosis and management of the disease, even in asymptomatic or pauci-symptomatic patients.[26] The reported cutaneous manifestations of COVID-19 are various, discrete sometimes unclear. Among cutaneous manifestations: skin rash, vesicular lesions, urticaria were common, but most of them are asymmetric and unilateral, occurring during the infection phase and clinical manifestations [27,28]. In contrast, Gianotti–Crosti syndrome featured by symmetric manifestations, which mostly appear after resolving of covid-19 related clinical manifestations by about 2-3 weeks.

CONCLUSIONS

In contrast to reported cutaneous manifestations of covid-19 infection, Gianotti–Crosti syndrome may follow the active phase of infection for some cases. It should not be misdiagnosed with dermatological simple eruptive disorders. The clinical features for covid-19 associated infection are typical for the well-known clinical picture of the syndrome. The case was reported to improve clinicians' awareness and help in better understanding and reporting cutaneous manifestations of COVID-19.

Author contribution: The authors confirm contribution to the paper as follows: study conception and design: YAA, AAS, AAA, FHT, SMA; data collection: YAA, AAS, AAA; analysis and interpretation of results: YAA, AAS, AAA, FHT, SMA; draft manuscript preparation: TAA, AAS. All authors reviewed the results and approved the final version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The Research Ethics Committee at King Khalid University provided ethical approval for the study with number 2020-0904.

Informed Consent Statement: The case report consent form was signed by the parents and attached to the patient file.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

REFERENCES

1. Boeck K, Mempel M, Schmidt T, Abeck D. Gianotti-Crosti syndrome: clinical, serologic, and therapeutic data from nine children. Cutis. 1998, 62(6): 271-4.
2. Gianotti F. Report on a special case of toxic infection characterized by a desquamative erythemato-infiltrative eruption with lenticular foci and a selective localization at the extremities. Soc Ital Dermatol Sifilogr Sezioni Interprov Soc Ital Dermatol Sifilogr. 1955; 96:678–97.
3. Crosti A, Gianotti F. Eruptive dermatosis of probable viral origin situated on the acra. Dermatologica. 1957; 115:671–7.
4. Brandt O, Abeck D, Gianotti R, Burgdorf W. Gianotti-crosti syndrome. Journal of the American Academy of Dermatology. 2006, 54(1): 136-45.
5. Draelos ZK, Hansen RC, James WD. Gianotti-Crosti syndrome associated with infections other than hepatitis B. JAMA. 1986; 256(17): 2386-8.
6. Leung AK, Sergi CM, Lam JM, Leong KF. Gianotti–Crosti syndrome (papular acrodermatitis of childhood) in the era of a viral recrudescence and vaccine opposition. World Journal of Pediatrics. 2019; 15(6):521-7.
7. Dikici B, Uzun H, Konca C, Kocamaz H, Yel S. A case of Gianotti Crosti syndrome with HBV infection. Adv Med Sci. 2008; 53:338–40.
8. Leung AK. Gianotti-Crosti syndrome. In: Leung AK, editors. Common problems in ambulatory pediatrics, vol. 1. New York: Nova Science Publishers Inc.; 2011. p. 375–8. ISBN: 978-1-62100-358-8.
9. Fastenberg M, Morrell DS. Acral papules: Gianotti-Crosti syndrome. Pediatr Ann. 2007; 36:800–4.
10. Karakaş M, Durdu M, Tuncer I, Cevlik F. Gianotti-Crosti syndrome in a child following hepatitis B virus vaccination. J Dermatol. 2007; 34:117–20.
11. Marcassi AP, Piazza CAD, Seize MBMP, Cestari SDCP. Atypical Gianotti-Crosti syndrome. An Bras Dermatol. 2018; 93:265–7.
12. Al-Dhaheri HS, Al-Kaabi A, Kara-Hamo Y, Al-Kaabi A, Al-Kaabi S, Al-Tatari H. Unusual presentation of Gianotti-Crosti syndrome due to Epstein–Barr virus infection. Case Rep Dermatol Med. 2016; 2016:1017524.
13. Ricci G, Patrizi A, Neri I, Specchia F, Tosti G, Masi M. Gianotti-Crosti syndrome and allergic background. Acta Derm Venereol. 2003; 83:202–5.
14. Brewer AC, Michaels JD, Hobohm D, DiCaudo DJ, Nguyen X. Gianotti-Crosti syndrome in a postpartum adult. Int J Dermatol. 2015; 54:84–5.
15. Cocciolone R, Morey A, Panasiuk P, Whitfeld MJ. Atypical Gianotti-Crosti syndrome in two HIV and hepatitis B co-infected adults. Australas J Dermatol. 2011; 52:32–6.
16. Pedreira RL, Leal JM, Silvestre KJ, Lisboa AP, Gripp AC. Gianotti-Crosti syndrome: a case report of a teenager. An Bras. Dermatol. 2016;91(5 suppl 1):163–5.
17. Stojkovic-Filipovic J, Skiljevic D, Brasanac D, Medenica L. Gianotti-Crosti syndrome associated with Ebstein–Barr virus and parvovirus B-19 coinfection in a male adult: case report and review of the literature. G Ital Dermatol Venereol. 2016; 151:106–11.
18. agawa C, Speakman M. Photo quiz: papular rash in a child after a fever: Gianotti-Crosti syndrome. Am Fam Physician. 2013; 87:59–60.
19. Llanora GV, Tay CM, van Bever HP. Gianotti-Crosti syndrome: case report of a pruritic acral exanthema in a child. Asia Pac Allergy. 2012; 2:223–6.
20. Kanzaki S, Kanda S, Terada K, Nohno S, Kumano K, Narahara K, et al. Detection of hepatitis B surface antigen subtype adr in an epidemic of papular acrodermatitis of childhood (Gianotti's disease). Acta Med Okayama. 1981; 35:407–10.
21. Toda G, Ishimaru Y, Mayumi M, Oda T. Infantile papular acrodermatitis (Gianotti's disease) and intrafamilial occurrence of acute hepatitis B with jaundice: age dependency of clinical manifestations of hepatitis B virus infection. J Infect Dis. 1978; 138:211–6.
22. Baldari U, Monti A, Righini MG. An epidemic of infantile papular acrodermatitis (Gianotti-Crosti syndrome) due to Epstein–Barr virus. Dermatology. 1994; 188:203–4.
23. Chuh A, Zawar V, Lee A, Sciallis G. Is Gianotti-Crosti syndrome associated with atopy? A case-control study and a postulation on the intrinsic host factors in Gianotti-Crosti syndrome. Pediatr Dermatol. 2016; 33:488–92.
24. Swali RN, Lee EB, Adams JL. Gianotti-crosti syndrome in the setting of recent coronavirus disease-19 infection. Pediatric dermatology. 2021 Feb 28.
25. Brin C, Sohier P, L'honneur AS, Marot S, Matar S, Aractingi S, Dupin N. An isolated peculiar gianotti-crosti rash in the course of a covid-19 episode. Acta Dermato-Venereologica. 2020; 100(16).
26. Sachdeva M, Gianotti R, Shah M, Bradanini L, Tosi D, Veraldi S, Ziv M, Leshem E, Dodiuk-Gad RP. Cutaneous manifestations of COVID-19: Report of three cases and a review of literature. Journal of dermatological science. 2020; 98(2):75-81.
27. Recalcati S. Cutaneous manifestations in COVID-19: a first perspective. J Eur Acad Dermatol Venereol. 2020; 34(5).
28. Wollina U, Karadağ AS, Rowland-Payne C, Chiriac A, Lotti T. Cutaneous signs in COVID-19 patients: a review. Dermatologic therapy. 2020; 33(5):e13549.