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Case Report

Common Post-Viral Sequalae: Onychomadesis in Setting of Giannoti Crosti Syndrome

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INTRODUCTION

Giannotti Crosti Syndrome (GCS), also known as infantile papular acrodermatitis, is a cutaneous reaction commonly observed in pediatric populations as a response to viral infections. It is characterized by sudden eruption of papules on the face, buttocks, and extensor surfaces, typically occurring during or following a viral infection. Symptoms may include varying degrees of pruritus and systemic signs of illness, such as fever or myalgias, which usually resolve within a short period.[1,2]

The exact underlying cause of GCS remains unclear, but it is believed to involve a delayed hypersensitivity reaction to various viral infections, including Hepatitis B, Cytomegalovirus, Epstein-Barr Virus, Respiratory Syncytial Virus, and Parvovirus.[3] Moreover, a prior study has indicated that children with a history of atopic dermatitis may be more predisposed to developing GCS, suggesting a potential role of immune hypersensitivity in the pathogenesis of the disease.[4]

While children with a history of atopy may face a higher risk of developing cutaneous sequelae, GCS also can occur in otherwise healthy children, primarily affecting those aged 3 months to 15 years with most GCS cases (over 90%) being observed in children under four years old.[3] The management of GCS is relatively straightforward, with a clinical diagnosis and supportive care comprising the mainstay of treatment. In persistent cases, skin biopsies may be used to rule out other conditions, although this approach can place additional emotional and financial burdens on patients and their families. Overall, the prognosis for GCS is typically positive, as skin lesions often resolve spontaneously, with occasional complications such as hyperpigmentation.

Although cutaneous manifestations of GCS have been extensively studied, literature regarding post-viral changes in this clinical context is limited, leading to the potential of unnecessary clinical investigation or heightened anxiety. In this paper, we present a case of a pediatric patient who developed onychomadesis, characterized by the peeling of the proximal nail beds, as a sequela of Giannotti Crosti Syndrome.

CASE REPORT

A two-year-old female with a history of premature birth and umbilical hernia visited the clinic due to concerns about peeling nail beds in both hands and feet. Six weeks earlier, she had presented to the clinic with a pruritic rash following an unspecified upper respiratory infection. During the previous examination, flat-topped papules were observed in clusters along the diaper region and perioral area, with scattered papules on the arms and feet. Mild lymphadenopathy of the axillary lymph node was present, but no other signs of systemic illness such as fever, chills, or myalgias were reported. Considering the respiratory infection and the development of a rash following its resolution, a suspected diagnosis of Giannotti Crosti Syndrome was made, and supportive therapy with topical hydrocortisone and diphenhydramine was recommended.

During a subsequent visit to the clinic six weeks later, the rash had resolved, but peeling of the nail beds in both fingers and toenails was noted. The patient's mother reported that the peeling had begun two weeks prior, with no significant changes since the last visit. Physical examination revealed 1-2-millimeter indentations at the proximal end of all nails (Figure 1), with the right large toe exhibiting additional grooves proximally (Figure 2).

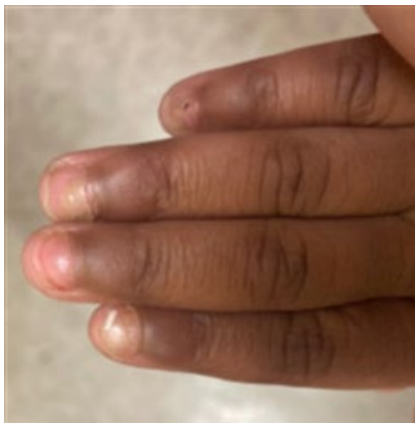

Figure 1. Nailbed separation of the right hand [seen prominently on ring finger].

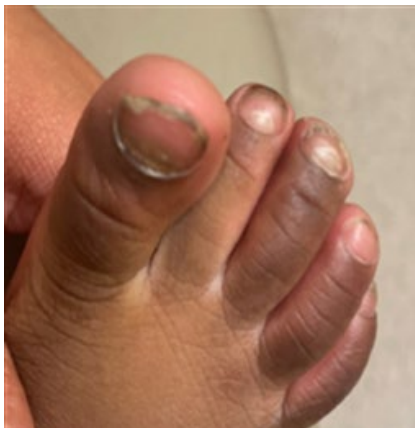

Figure 2. Nailbed separation of the right foot.

There were no signs of pain, inflammation, or fungal infection in any of the affected digits, and the patient's mother denied any concerns regarding associated symptoms. Routine blood and serum labs yielded normal results. Given negative clinical and laboratory results, the possibility of benign post-viral nail changes such as onychomadesis because of her recent episode of Giannotti Crosti Syndrome was discussed. Upon reviewing the benign etiology of this condition, a referral to pediatric dermatology was recommended, primarily for addressing cosmetic concerns.

Keywords: acrodermatitis, gianotti crosti syndrome, onychomadesis, nail disease, rash

DISCUSSION

Onychomadesis refers to the separation of the proximal nail plate and nail matrix due to a transient cessation of nail growth. Various factors can cause this clinical finding, ranging from viral infections like Hand Foot Mouth disease, severe systemic diseases, nutritional deficiencies, trauma, and fever to drug ingestion and infection.[5] While this phenomenon can be alarming, it often represents a benign consequence of an insult to the body, and the nail beds can fully regrow within 12 weeks, with faster regeneration in some children. There is no specific treatment for onychomadesis, and the recommended approach usually involves watchful waiting and monitoring for any other signs of illness, unless obvious indications of a serious condition accompany the peeling.[6]

Notably, nail bed peeling has also been associated with other infectious illnesses. For instance, a 2017 case series reported four pediatric cases of isolated onychomadesis following Hand-Foot-Mouth disease, suggesting that, in the appropriate clinical context, nail bed peeling can be a consequence of the same viral infection rather than an indication of a more serious illness.[7] This gives credence to the notion that without a laboratory or clinical finding that suggests further evaluation is needed, that these patients should solely by monitored.

While further investigations and extensive workups may provide some benefit, studies have demonstrated that a specific etiology remains unidentified in over half of the patients, without impacting the overall clinical outcome. This underscores the importance of employing clinical judgment in assessing the disease course. Given the benign and self-limiting nature of this condition in the presented case, physicians can reassure patients that nail bed changes are self-limiting, thereby reducing the need for further interventions that may lead to misdiagnosis. It is beneficial for physicians to be aware that onychomadesis can occur in various types of infections, enabling them to inform concerned parents about the possibility of its development in the weeks following the resolution of Giannotti Crosti Syndrome, as well as other types of infections.

REFERENCES

[1] Iorizzo LJ 3rd, Scott G, Tausk FA. Gianotti-Crosti Syndrome: A case report in an adult. Cutis 2012; 89(4):169-172. PMID: 22611743.
[2] Taïeb A, Plantin P, Du Pasquier P, Guillet G, Maleville J. Gianotti-Crosti Syndrome: A study of 26 cases. Br J Dermatol 1986; 115(1):49-59. PMID: 3015187.
[3] Magyarlaki M, Drobnitsch I, Schneider I. Papular acrodermatitis of childhood (Gianotti-Crosti disease). Pediatr Dermatol 1991; 8(3):224-227. PMID: 1745633.
[4] Ricci G, Patrizi A, Neri I, Specchia F, Tosti G, Masi M. Gianotti-Crosti Syndrome and allergic background. Acta Derm Venereol 2003; 83(3):202-205. PMID: 12816156.
[5] Hardin J, Haber RM. Onychomadesis: Literature review. Br J Dermatol 2015; 172(3):592-596. PMID: 25132198.
[6] Salgado F, Handler MZ, Schwartz RA. Shedding light on onychomadesis. Cutis 2017; 99(1):33-36. PMID: 28207011.
[7] Kuehnel NA, Thach S, Thomas DG. Onychomadesis as a late complication of hand-foot-mouth disease: A case series shedding light on nail shedding. Pediatr Emerg Care 2017; 33(11):e122-e123. PMID: 29095779.