Gianotti-Crosti Syndrome: A Case Report in an Adult

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Gianotti-Crosti syndrome (GCS) is a viral-associated eruption that most commonly occurs in children aged 15 months to 2 years. It consists of monomorphic red-brown to pink papules and vesicles distributed symmetrically on the cheeks, extensor surface of the extremities, and buttocks. The eruption usually spontaneously resolves over the course of 10 to 60 days. We report the rare case of GCS in an adult. An otherwise healthy 20-year-old woman presented with a pruritic eruption of 2 weeks' duration on the dorsal aspect of her hands and feet, elbows, and knees. The patient received oral corticosteroids prior to presentation to our clinic with some improvement. A biopsy revealed histopathologic findings consistent with a diagnosis of GCS. The patient's aspartate aminotransferase (AST) and alanine aminotransferase (ALT) levels were elevated. Over the course of the next 2 months, the patient's skin findings completely resolved with normalization of liver function tests. The clinical and histologic correlation was consistent with GCS in an adult. This condition may not be as rare in adults as previously thought. Clinicians should keep GCS in their differential diagnosis when examining adult patients.

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Gianotti-Crosti syndrome (GSC) is a relatively common disease in children. The disease is an eruption consisting of monomorphic red-brown to pink papules and vesicles distributed symmetrically on the cheeks, extensor surface of the extremities, and buttocks; however, involvement of the trunk does not exclude the diagnosis. The papules may coalesce into plaques and the eruption usually is self-limited. It may be pruritic.[1] It is seen worldwide and has a mean age of diagnosis of 15 months to 2 years, with boys having the disease slightly more often than girls.[2,3] The vast majority of patients with GCS present between the ages of 6 months and 14 years.[2] We report the rare case of an adult who developed the classic eruption of GCS.

Case Report

A 20-year-old woman presented to our dermatology clinic with a rash of 2 weeks' duration, starting on the dorsal aspect of the hands and spreading to her elbows, knees, and dorsal aspect of the feet. The areas were quite pruritic. A few days after the initial eruption, the patient went to an emergency department and received a short 5-day course of oral corticosteroids, which helped to clear some of the eruption. The patient, however, was still unable to sleep at night because of her pruritus. She started an oral contraceptive pill 2 weeks before developing skin lesions but stopped taking it when the rash developed. She recently had taken no other medications. The patient had no systemic symptoms and had a mild "cold" 2 months prior to the development of skin lesions. Medical history included only hearing impairment and she had no allergies. Family history was noncontributory.

Physical examination revealed multiple pink papules and macules coalescing into plaques (Figure 1) with some excoriations bilaterally on the elbows, knees, and dorsum of hands and feet. The trunk, face, and buttocks were not involved.

We performed a biopsy of a lesion on the patient's right foot. She was discharged from clinic with a prescription for clobetasol propionate ointment 0.05% to use on the affected areas twice daily. We also prescribed 1 to 3 tablets of hydroxyzine hydrochloride 10 mg as needed for itching.

The biopsy showed diffuse spongiosis of the epidermis with a normal overlying stratum corneum. The

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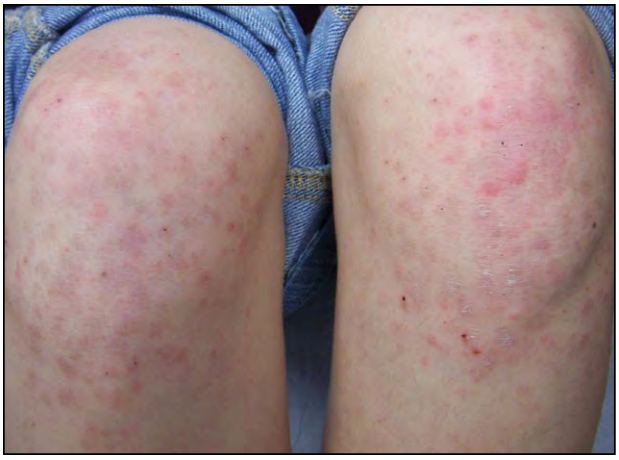
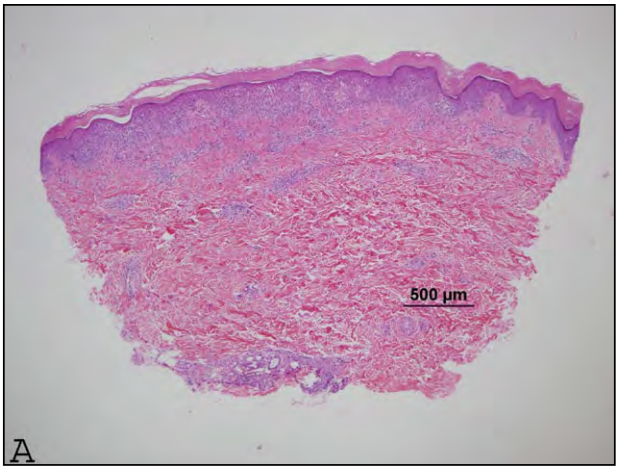


Figure 1. The patient's clinical appearance at presentation to our clinic with pink papules and macules that coalesced into plaques. The patient had previously received oral corticosteroids, causing the cutaneous eruption to be less severe than at her initial presentation to the emergency department.



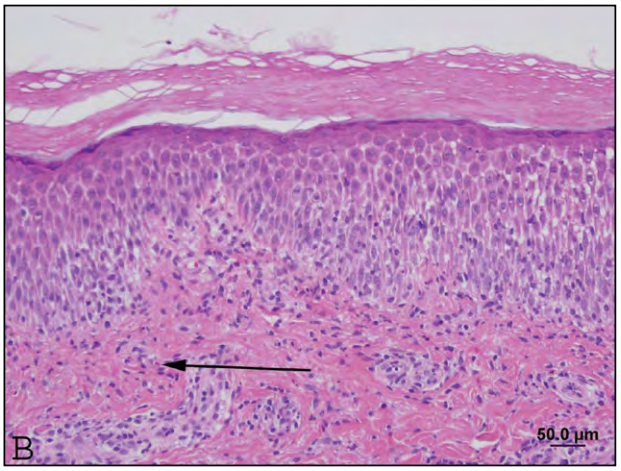


Figure 2. Scanning view of the patient's biopsy from the foot showed an infiltrate in the upper dermis that was predominantly around vessels, with diffuse mild spongiosis of the epidermis (A)(H&E). Higher magnification showed occasional extravasated erythrocytes in the dermis (arrow) along with spongiosis and lymphocytes within the epidermis (B)(H&E).

dermis showed a lymphocytic perivascular infiltrate that was focally interstitial with some eosinophils. There were some extravasated erythrocytes in the papillary dermis. The histologic and clinical findings were consistent with a diagnosis of GCS (Figure 2). A comprehensive metabolic panel was remarkable only for an alanine aminotransferase (ALT) level of 123 U/L (reference range, 10–40 U/L) and an aspartate aminotransferase (AST) level of 61 U/L (reference range, 10–30 U/L), both elevated.

The patient returned to the clinic 1 week later and the eruption was almost entirely resolved and no longer pruritic. Additional laboratory workup revealed negative hepatitis B surface antigen, hepatitis B core antibody, hepatitis C virus antibody, and hepatitis A total antibody. Hepatitis B surface antibody was positive, suggestive of immunity. The patient had an elevated ALT level of 104 U/L and AST level of 65 U/L. A complete blood cell count did not reveal any abnormalities.

The patient returned for follow-up 3 weeks later and had a normal skin examination, except for some minor erythema of the knees. At follow-up an additional 1 month later, skin examination did not reveal any abnormalities. The patient's laboratory workup was remarkable for ALT and AST levels within reference range (30 U/L and 28 U/L, respectively).

Comment

Although quite common in children, GCS is considered a rare development in adults. To our knowledge, there have been only 12 previously reported adult cases of GCS in the English-language literature (Table).[3-11] We present the case of a 20-year-old woman who likely had an asymptomatic Epstein-Barr virus (EBV) or cytomegalovirus infection that caused a transient elevation in her liver function tests. If liver enzymes are elevated with GCS, the most usual cause is EBV or cytomegalovirus.[1] The patient's cutaneous eruption resolved and her liver function tests normalized, supporting this hypothesis. In adults, the number of cases of GCS seen in women greatly outnumbers the amount seen in men, as there have been only 3 reported men with GCS in the English-language literature that we could identifiy.[10,11] Brandt et al[1] suggested that hormonal influences may play a role.

Gianotti-Crosti syndrome was first described by Gianotti[12] in 1955 when he postulated that it was

Adult Gianotti-Crosti Syndrome Cases in the English-Language Literature

Reference	Age, y	Sex	Association
Giam and Tay[3]	24	F	Unclear: HBsAg excluded
Chuh et al[4]	23	F	Unclear: HHV-6, HHV-7, and HBsAg excluded
Gibbs and Burrows[5]	44	F	Unclear: HBsAg, EBV, enterovirus, adenovirus, *Mycoplasma,* and *Chlamydia* excluded
Gibbs and Burrows[5]	45	F	Unclear
Cambiaghi et al[6]	28	F	Influenza virus vaccination
Mempel et al[7]	26	F	EBV
Manoharan et al[8]	44	F	*Mycoplasma pneumoniae*
Ting et al[9]	21	F	Unclear: varicella excluded
Ting et al[9]	37	F	Unclear: EBV, HCV, HBsAg, *Parvovirus* B19, and *Streptcoccus pyogenes* excluded
Turhan et al[10]	21	M	HBV
Cocciolone et al[11]	43	M	HIV or HBV
Cocciolone et al[11]	43	M	Likely HBV; patient also was HIV positive

Abbreviations: F, female; HBsAg, hepatitis B surface antigen; HHV-6, human herpesvirus 6; HHV-7, human herpesvirus 7; EBV, Epstein-Barr virus; HCV, hepatitis C virus; M, male; HBV, hepatitis B virus; HIV, human immunodeficiency virus.

related to a viral condition. He later found it to be associated with hepatitis B virus (HBV).[13] Today, HBV is not the most common cause of GCS, as it is most commonly associated with EBV infection,[14,15] with HBV-associated GCS cases being highly outnumbered by nonassociated cases.[2] Numerous other viral and bacterial associations have been identified as noted by a comprehensive review[1] including cytomegalovirus, human herpesvirus 6, various coxsackieviruses, rotavirus, *Parvovirus* B19, molluscum contagiosum virus, respiratory syncytial virus, mumps virus, parainfluenza viruses type 1 and type 2, *Bartonella henselae*, *Mycoplasma pneumoniae*, and β-hemolytic streptococci. Atopic dermatitis[15] and immunizations[1,6] also have been associated with the condition.

Gianotti[16] believed that cases associated with HBV could be distinguished from cases associated with other viruses and defined 2 separate diseases: papular acrodermatitis of childhood and papulovesicular acrolated syndrome, respectively. However, a subsequent study found that the 2 conditions could not be distinguished based on morphology or symptoms.[2]

In our case, the patient had been treated with a short course of oral corticosteroids and she also used topical corticosteroids. The patient substantially improved over the course of 3 weeks with this regimen. Other adult patients have been treated with topical and/or oral corticosteroids with similar disease courses[5,8,9]; however, in other cases of adult GCS, the lesions spontaneously resolved.[7] The pathogenesis of the eruption is unclear, but it is generally accepted that the cutaneous eruption is not caused by a direct local interaction between immunologically competent cells in the skin and viral antigens.[1]

The diagnosis of GCS usually is based on clinical findings, as the histology can vary considerably. However, in the appropriate clinical scenario, histologic findings can be consistent with GCS. The histology can show a mixture of 3 reactions: spongiotic, lichenoid, and lymphocytic vasculitis. Red blood cell extravasation and papillary dermal edema also are commonly seen.[17] Our histologic findings were consistent with this diagnosis. Other diseases to consider in a differential diagnosis of GCS are lichenoid drug reactions, erythema multiforme, scabies, and papular urticaria.[1]

Conclusion

Gianotti-Crosti syndrome occurs in adults, though it is much more common in pediatric patients. Dermatologists and general practitioners must both be aware of this diagnosis, as appropriate serologic testing should be performed on these patients. As

prior authors have suggested,[5,7,9] GCS in adults may not be as uncommon as previously thought.

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