

# Gianotti-Crosti Syndrome Following Milkers' Nodules

Carlos de la Torre, MD

*Gianotti-Crosti syndrome (GCS), or papular acrodermatitis of childhood, is a distinctive self-limiting rash with symmetrically distributed papules on the face, buttocks, and extremities that has been related to several underlying viral diseases. We report a case of a boy exhibiting involutive lesions of milkers' nodules who subsequently developed a rash with the clinical features of GCS. The temporal relationship suggested the possibility of a causal association.*

*Cutis.* 2004;74:316-318.

**G**ianotti-Crosti syndrome (GCS), also known as *papular acrodermatitis of childhood* or *infantile papular acrodermatitis*, is a distinctive papular or papulovesicular eruption first described by Gianotti in 1955.<sup>1</sup> Although a viral cause was initially suspected and the first described cases were related to hepatitis B infection, GCS is now considered a cutaneous reaction pattern that is frequently, but not necessarily, associated with an underlying infectious disease.<sup>1-6</sup> We report a case of GCS in a boy following presumptive milkers' nodule infection.

## Case Report

An 11-year-old boy presented with a nonpruritic acraly distributed eruption. Three weeks prior to the examination, the patient developed several lesions on the left hand for which no medical advice was sought. His parents had identified these earlier lesions as farmyard pox because of the boy's contact with lesions on the udders of an infected cow.

Results of a physical examination revealed two 5- and 8-mm, eroded, and crusted nodules on the

dorsum of the second and third fingers (Figure 1) and a similar lesion on the palmar aspect of the wrist of the left hand. Symmetrically distributed on the cheeks, dorsum of the hands and forearms, legs, and buttocks was a monomorphic eruption of hundreds of flesh-colored or slightly erythematous, 2- to 3-mm, flat-topped papules (Figure 2). No hepatomegaly, splenomegaly, or generalized lymphadenopathy was present. Results of laboratory investigations, including liver function tests, were within reference range and revealed no viral hepatitis markers. The patient's parents denied request for biopsy and further investigation.

## Comment

GCS is a distinctive self-limiting, papular or papulovesicular, eruptive rash first described by Gianotti in 1955.<sup>1</sup> In 1979, Gianotti stated that this eruption was exclusively associated with hepatitis B virus and proposed the term *papulovesicular acro-located syndromes* for similar eruptions not associated with hepatitis B virus.<sup>3</sup> In subsequent years, results of further studies elucidated the etiologic role of several viruses in these eruptions.<sup>4</sup> Analysis of these studies revealed that differences in clinical features were not due to the responsible virus, prompting investigators to propose the term *Gianotti-Crosti syndrome* for all similar acraly located eruptions.<sup>4</sup>

GCS is considered a distinctive but non-specific, cutaneous, eruptive pattern with valid and reproducible diagnostic criteria. In addition to hepatitis B virus, the syndrome has been related to an increasing number of underlying viral and bacterial sources, most commonly Epstein-Barr virus and occasionally immunization (polio, diphtheria-pertussis-tetanus, and measles-mumps-rubella vaccines).<sup>5-7</sup>

Milkers' nodules are an uncommon cutaneous occupational disease that is caused by *Parapoxvirus* and frequently contracted from the udders of infected cows. Because the morphology and clinical presentation of milkers' nodules were similar

---

Accepted for publication March 11, 2004.

From the Service of Dermatology, Complejo Hospitalario de Pontevedra, Spain.

The author reports no conflict of interest.

Reprints: Carlos de la Torre, MD, Plaza de América 3-5 D, 6211 Vigo, Spain (e-mail: cctorre@mun-do-r.com).



**Figure 1.** Acute, nodular, eroded lesions on the fingers (milkers' nodules) and monomorphic papular lesions on dorsum of the hand (Gianotti-Crosti syndrome).



**Figure 2.** Gianotti-Crosti-type eruption. Note the linear array (Köbner phenomenon) on the forearm, as well as crusted nodule (milkers' nodule) on the wrist.

to those of orf virus infection, both milkers' nodules and orf virus infection were collectively given the name *farmyard pox*. In typical cases, the diagnosis of farmyard pox can be established by a history of contact with infected animals and by assessment of morphologic features of the lesions. The use of biopsy and electron microscopy can be helpful in confirming the diagnosis.<sup>8,9</sup>

Although in this case specific studies were not performed to confirm the diagnosis, the lesions were presumed to represent milkers' nodules based on the history of contact with infected udders of a cow and the clinical appearance of the lesions. The accompanying rash fulfilled the diagnostic criteria for GCS.

In recent years, an increasing number of viruses have been linked to GCS. To the best of our knowledge, there is only one reported case related to poxvirus (*molluscum contagiosum*),<sup>10</sup> and no cases of GCS have been attributed to viruses of the *Parapoxvirus* genus.

Although some caution is recommended when considering a causal relationship between GCS and a temporally related specific event,<sup>5</sup> the evidence presented in this case suggests a possible etiologic role for *Parapoxvirus* in the development of GCS: there was no evidence of recent infection with other

common viruses, and both dermatoses regressed completely over a couple of weeks without treatment. In addition, Sonck<sup>11</sup> described a self-limiting papulovesicular eruption following milkers' nodule infection, and it is known that infection with *Parapoxvirus* can be associated with exanthematous manifestations and noninfectious complications such as erythema multiforme.<sup>12</sup>

This evidence supports an immunogenic role for parapoxviruses in GCS and our proposal that GCS can be related to milkers' nodules. As farmyard pox is now infrequent, this association should be considered unusual.

## REFERENCES

1. Gianotti F. Rilievi di una particolare casistica tossoinfeziva caratterizzata da una eruzione eritematoinfiltrativa desquamativa a focolai lenticolari, a sede elettiva acroesposta. *G Ital Dermatol*. 1955;96:678.
2. Gianotti F. Papular acrodermatitis of childhood. an Australia antigen disease. *Arch Dis Child*. 1973;48:794-799.
3. Gianotti F. Papular acrodermatitis of childhood and other papulo-vesicular acro-located syndromes. *Br J Dermatol*. 1979;100:49-59.
4. Caputo R, Gelmetti C, Ermacora E, et al. Gianotti-Crosti syndrome: a retrospective analysis of 308 cases. *J Am Acad Dermatol*. 1992;26:207-210.
5. Chuh AAT. Diagnostic criteria for Gianotti-Crosti syndrome: a prospective case-control study for validity assessment. *Cutis*. 2001;68:207-213.
6. Taieb A, Plantin P, Du Pasquier P, et al. Gianotti-Crosti syndrome: a study of 26 cases. *Br J Dermatol*. 1986;115:49-59.
7. Murphy LA, Buckley C. Gianotti-Crosti syndrome in an infant following immunization. *Pediatr Dermatol*. 2000;17:225-226.
8. Shelley WB, Shelley ED. Farmyard pox: parapox virus infection in man. *Br J Dermatol*. 1983;108:725-727.
9. Diven DG. An overview of poxviruses. *J Am Acad Dermatol*. 2001;44:1-14.
10. Carrascosa JM, Just M, Ribera M, et al. Papular acrodermatitis of childhood related to poxvirus and parvovirus B19 infection. *Cutis*. 1998;61:265-267.
11. Sonck CE. Milker's nodules with secondary allergic eruptions. *Acta Allergol*. 1951;4:241-251.
12. Kuokkanen K, Launis J, Murttinen A. Erythema nodosum and erythema multiforme associated with milker's nodules. *Acta Derm Venereol*. 1976;56:69-72.