

Unilateral Maculopapular Rash in a Child: A Quiz

Katarzyna JANKOWSKA¹, Jozef KOKOSZKA² and Jacek C SZEPIETOWSKI^{1,3}

¹Department of Dermato-Venereology, 4th Military Hospital, Wrocław, Poland, ²Optima Medycyna Outpatient Clinic, Nysa, Poland, and ³Faculty of Medicine, Wrocław University of Science and Technology, Grunwaldzki sq. 11, 51-377 Wrocław, Poland. E-mail: jacek.szepietowski@pwr.edu.pl

A 2-year-old Caucasian boy presented with a 4-day duration of rash localized on the left side of his body. The eruption commenced abruptly on the left side of the abdomen, subsequently coalescing and extending along the lateral thoracic wall to the left axilla. The rash then progressively spread to involve the left upper and lower limbs. On physical examination, the patient exhibited multiple erythematous macules and papules on the left abdominal region, left lateral chest, left axilla, left arm – coalescing around the left cubital fossa – and the proximal portion of the lower limb (Figs 1 and 2). The patient's parents reported an episode of upper

respiratory tract infection approximately 2 days before the onset of the rash, with associated symptoms of low-grade fever (37.2°C), cough, and rhinitis. Additionally, the patient experienced an itch of moderate intensity.

What is your diagnosis?

Differential diagnosis 1: Contact dermatitis

Differential diagnosis 2: Gianotti–Crosti syndrome

Differential diagnosis 3: Asymmetric periflexural exanthem of childhood (APEC)

Differential diagnosis 4: Atypical pityriasis rosea

See next page for answer.



Fig. 1. Numerous erythematous macules and papules on the left side of the patient's body.



Fig. 2. Erythematous macules coalescent on the proximal part of the left lower limb.

ANSWERS TO QUIZ

Unilateral Maculopapular Rash in a Child: A Commentary

Acta Derm Venereol 2025; 105: adv43059.
DOI: 10.2340/actadv.v105.43059

Diagnosis: Asymmetric periflexural exanthem of childhood (APEC)

Asymmetric periflexural exanthem of childhood (APEC), also referred to as unilateral laterothoracic exanthem (ULE) or superimposed lateralized exanthem, represents a rare and distinctive exanthematous eruption primarily observed in early childhood. This condition is characterized by its asymmetric and unilateral distribution, alongside a self-limiting clinical course. APEC exhibits a predilection for female children, with a reported female to male ratio of approximately 2:1, and the majority of cases have been reported within the Caucasian population (1). The typical onset of symptoms occurs at a mean age of 27.5 months, with an age range extending from 1 to 5 years (2); however, isolated cases of APEC have also been observed in both infants and adults (3). Familial occurrence has occasionally been observed, suggesting a potential genetic predisposition. Furthermore, APEC demonstrates a seasonal variation in its prevalence, with a marked increase in cases during the late winter and early spring months (4).

Clinically, APEC typically manifests as discrete erythematous macules and papules, ranging from 1 to 4 mm in diameter. These lesions are characterized by a granular texture on palpation and exhibit a tendency to coalesce into larger plaques. Pale haloes may be observed around the larger lesions. In addition to the primary erythematous lesions, other dermatologic manifestations may be noted, including eczematous or scarlatiniform eruptions, morbilliform patches, as well as annular and reticulate patterns. The diversity of these patterns contributes to the heterogeneity of clinical presentation (3, 5). APEC typically develops unilaterally, with the lesions often first appearing in the axillary region. Less frequently, the eruption may involve the groin area. Over time, the rash extends to the adjacent trunk and the medial surface of the corresponding lower or upper limb. In rare cases, the eruption may also spread to more distant areas, including the face, genitalia, and palmo-plantar surfaces. The distribution of the eruption is generally centrifugal, with lesions radiating outwards from the initial site of involvement. While progression to the contralateral side may occur (2), unilateral predominance is typically maintained in most cases. There is no significant left- or right-sided predilection in the distribution of the rash. The exanthem in APEC is often associated with moderate itch, which may lead to varying degrees of discomfort. Regional lymphadenopathy is also commonly observed, suggesting an inflammatory response. Approximately 75% of affected children report prodromal symptoms, including mild fever, diarrhoea, and rhinitis, which are indicative of an underlying viral or gastrointestinal infection (6). These prodromal signs typically precede the onset of the cutaneous eruption by several days, which can complicate the differential diagnosis,

particularly in the context of viral or bacterial infections that present with similar systemic manifestations.

Although the exact aetiology of APEC remains elusive, viral infections are frequently implicated as potential triggers. Various viruses, including but not limited to Epstein-Barr virus, adenovirus, parvovirus B19, and SARS-CoV-2, have been suggested as possible precipitants (1, 7–9). Despite these associations, further research is necessary to establish definitive causal relationships and elucidate the underlying pathophysiological mechanisms of this intriguing dermatological entity.

The diagnosis of APEC is primarily based on clinical manifestation (4), and skin biopsy is generally not required. Histopathological findings, when obtained, are nonspecific, typically revealing a superficial perivascular lymphohistiocytic infiltrate, which tends to cluster around dermal blood vessels or eccrine glands and ducts, without involvement of the secretory coils. The differential diagnosis of APEC encompasses a range of conditions, including viral exanthems, allergic contact dermatitis, drug-related eruptions of a nonspecific nature, dermatophyte infections, atypical pityriasis rosea, miliaria, scarlet fever, scabies, and Gianotti-Crosti syndrome. The prognosis for this condition is generally favourable, with the majority of lesions resolving spontaneously within 4 to 6 weeks. Residual findings, such as mild hyperpigmentation or desquamation (6), typically resolve without long-term sequelae (2). As the rash is self-limited, pharmacological intervention is not routinely required. In symptomatic individuals, however, oral antihistamines and topical corticosteroids may be used to alleviate pruritus and reduce inflammatory response. In the case of our patient, treatment included the use of emollient soap and cetirizine syrup, which successfully led to the resolution of itch.

Early recognition of APEC and its differentiation from other common paediatric dermatoses is critical. Accurate diagnosis not only allows for appropriate reassurance of parents but also helps to avoid unnecessary diagnostic procedures and interventions in the paediatric population, thereby minimizing the potential for overtreatment and reducing associated healthcare burdens.

REFERENCES

1. Duarte AF, Cruz MJ, Baudrier T, Mota A, Azevedo F. Unilateral laterothoracic exanthem and primary Epstein-Barr virus infection: case report. *Pediatr Infect Dis J* 2009; 28: 549–550. <https://doi.org/10.1097/INF.0b013e318193eca7>
2. Coustou D, Léauté-Labrèze C, Bioulac-Sage P, Labbé L, Taïeb A. Asymmetric periflexural exanthem of childhood: a clinical, pathologic, and epidemiologic prospective study. *Arch Dermatol* 1999; 135: 799–803. <https://doi.org/10.1001/archderm.135.7.799>
3. Bauzá A, Redondo P, Fernández J. Asymmetric periflexural exanthem in adults. *Br J Dermatol* 2000; 143: 224–226. <https://doi.org/10.1046/j.1365-2133.2000.03639.x>
4. Gragasin FS, Metelitsa AI. Unilateral laterothoracic exanthem. *CMAJ* 2012; 184: 322. <https://doi.org/10.1503/cmaj.110315>
5. Auvin S, Imiela A, Cuvellier JC, Catteau B, Vallée L, Martinot A. Asymmetric periflexural exanthem of childhood in a child with axonal Guillain-Barré syndrome. *Br J Dermatol* 2004; 150: 396–397. <https://doi.org/10.1111/j.1365->

2133.2003.05798.x

6. McCuaig CC, Russo P, Powell J, Pedneault L, Lebel P, Marcoux D. Unilateral laterothoracic exanthem: a clinicopathologic study of forty-eight patients. *J Am Acad Dermatol* 1996; 34: 979–984. [https://doi.org/10.1016/s0190-9622\(96\)90275-3](https://doi.org/10.1016/s0190-9622(96)90275-3)
7. Niedermeier A, Pfützner W, Ruzicka T, Thomas P, Happle R. Superimposed lateralized exanthem of childhood: report of a case related to adenovirus infection. *Clin Exp Dermatol* 2014; 39: 351–353. <https://doi.org/10.1111/ced.12311>
8. Prčić S, Gajinov Z, Radulović A, Matić M, Matić A. Unilateral laterothoracic exanthem – asymmetric periflexural exanthem of childhood – a case report and literature review. *Serbian Journal of Dermatology and Venereology. Sciendo* 2017; 9: 49–52. <https://doi.org/10.1515/sjdv-2017-0007>
9. Glick LR, Fogel AL, Ramachandran S, Barakat LA. Unilateral laterothoracic exanthem in association with coronavirus disease 2019. *JAAD Case Rep* 2020; 6: 900–901. <https://doi.org/10.1016/j.jdcr.2020.07.020>