Case Report

Acute Generalised Exanthematous Pustulosis in a Child Following Varicella Infection

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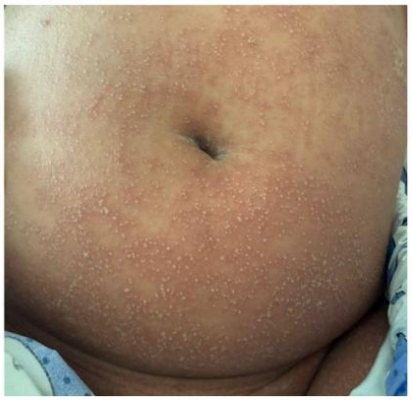
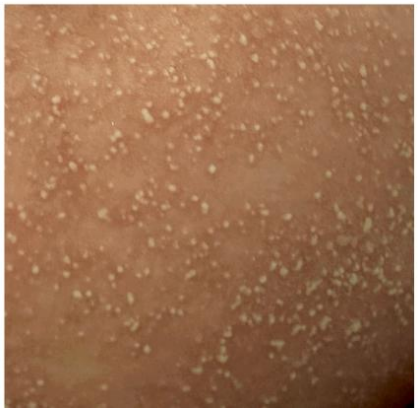
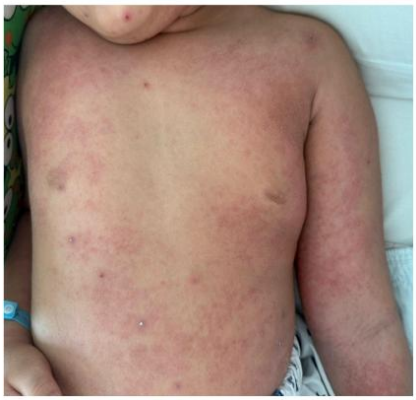
Introduction

Acute generalised exanthematous pustulosis (AGEP) is a rare but severe cutaneous adverse reaction mediated by a type IV T-cell–driven delayed hypersensitivity response. It is typically self-limiting and characterised by the rapid onset of widespread, non-follicular sterile pustules.[1] The condition is most commonly drug-induced, although infections and inflammatory conditions have also been reported as potential triggers.[2] AGEP predominantly affects adults and females, with limited data available in the paediatric population.







Objective

To report a rare case of infection-associated AGEP in a child following Varicella-zoster infection and to highlight the importance of recognising non-drug triggers.

Case Report

We report a 7-year-old Iban boy with underlying obesity who presented with fever and a generalised pruritic pustular eruption. The rash developed approximately one week following a recent Varicella-zoster infection. There was no history of significant drug exposure. Examination revealed numerous fine, non-follicular pustules predominantly involving the trunk, extremities, and intertriginous areas, with mucosal sparing. The patient was haemodynamically stable and showed no evidence of systemic organ involvement. Laboratory investigations revealed leukocytosis (25,000 cells/mm^3) and elevated C-reactive protein (209 mg/L), indicating significant systemic inflammation. Histopathological examination demonstrated subcorneal neutrophilic pustules with

spongiosis, psoriasiform epidermal changes, papillary dermal oedema, and mixed perivascular inflammatory infiltrates, consistent with AGEP. He was treated with supportive care, including intravenous fluids, antihistamines for pruritus, and emollients. Intravenous cloxacillin was administered for suspected secondary bacterial infection. The rash resolved with desquamation by four weeks, and complete recovery was achieved by eight weeks, with no recurrence to date.

Discussion

Acute generalised exanthematous pustulosis in children is uncommon and may closely resemble generalized pustular psoriasis and drug-induced eruptions. This diagnostic overlap underscores the importance of clinicopathological correlation, with histopathology playing an essential role in diagnosis.[3] AGEP typically presents with acute sterile pustules and systemic inflammatory response. Elevated inflammatory markers such as leukocytosis and C-reactive protein may reflect disease severity and may also be influenced by secondary infection, potentially obscuring early diagnostic clarity. Although drugs remain the most common trigger, the absence of medication exposure in this case supports an alternative aetiology. The preceding Varicella-zoster infection is the most likely precipitating factor, consistent with reports of infection-associated neutrophilic dermatoses driven by immune activation. The condition is generally self-limiting, with resolution occurring within days to weeks after removal or resolution of the underlying trigger. The differential diagnosis includes pustular psoriasis, infectious pustular eruptions, and drug-induced reactions, reinforcing the need for integrated clinical and histological assessment.[4] Management is primarily supportive, focusing on symptom relief and treatment of complications such as secondary infection when present. In this case, conservative management resulted in complete recovery without recurrence, consistent with the benign natural course of AGEP.

Conclusion

AGEP should be considered in children presenting with acute febrile pustular eruptions, even in the absence of drug exposure. Infection, including Varicella-zoster, may act as an uncommon trigger. Early recognition and histopathological confirmation are essential for accurate diagnosis and optimal management, resulting in excellent clinical outcomes.

Keywords

acute generalized exanthematous pustulosis; AGEP; varicella-zoster; pustular eruption; hypersensitivity reaction

References

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