

Acute generalized exanthematous pustulosis following paracetamol ingestion in a 5-year-old child: A case report

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Acute generalized exanthematous pustulosis (AGEP) is a severe skin condition characterized by an acute onset of a widespread erythematous eruption with non-follicular, sterile pustules, in association with fever. It is caused by systemic medication in most cases, especially antibiotics. It is uncommon in children.^{1,2} Here, we present a rare case of paracetamol-induced AGEP in a 5-year-old girl, confirmed by patch testing.

CASE REPORT

A 5-year-old girl was transferred to the Paediatrics Department of our hospital with fever of 38°C and a 5-day history of a widespread erythematous cutaneous eruption with a sudden exacerbation with pustule formation since 1 day. Her mother reported that 5 days prior, simultaneously with the onset of the eruption, she had been diagnosed with otitis media. One day preceding the reaction, she was given paracetamol. Amoxicillin was administered when there was already a mild erythematous eruption present. It is unclear whether ibuprofen was given or not. Further anamnesis revealed that a propolis-based syrup is also given regularly in the home environment, however most likely not during this episode (Figure 1).

Clinical examination showed a generalized erythema, covered with hundreds of white pustules (Figure 2). Mucous membranes, palms and soles were unaffected. Laboratory tests revealed an

elevated white blood cell count with neutrophilia and an elevated C-reactive protein level (153 mg/L). Infectious causes were excluded by blood cultures, nasopharyngeal swab, viral serology, urine and faeces analysis. A skin biopsy showed subcorneal pustules with neutrophils and spongiosis, confirming the clinical diagnosis of AGEP.

All systemic medication was discontinued and topical steroids were administered, leading to complete resolution within 4 days.

AGEP is considered a delayed hypersensitivity reaction. Therefore, 5 months after the acute episode, patch tests were performed. According to the literature, tests can be positive in up to 58% of the patients.³ Some selected allergens from the European baseline series, propolis syrup ('as is'), amoxicillin 10% pet., acetaminophen (paracetamol) 10% pet. and ibuprofen 10% pet. were tested. Test preparations (Chemotechnique Diagnostics, Vellinge, Sweden) were applied on IQ Ultra Chambers (Chemotechnique Diagnostics) and covered with Hypafix (BSN Medical, Hamburg, Germany). Readings were performed on Day 2 (D2) and D4, according to ESCD guidelines.⁴ On both D2 and D4, a single positive reaction (++) with a partially pustular aspect was seen for acetaminophen (paracetamol) 10% pet., thus pin-pointing this drug as the trigger of the past episode of AGEP (Figure 3). There were no late reactions reported by the parents. After discussion with the parents, and given that amoxicillin and ibuprofen were far less likely culprits, it was decided not to perform a further allergy work-up/challenge tests with the latter two drugs.

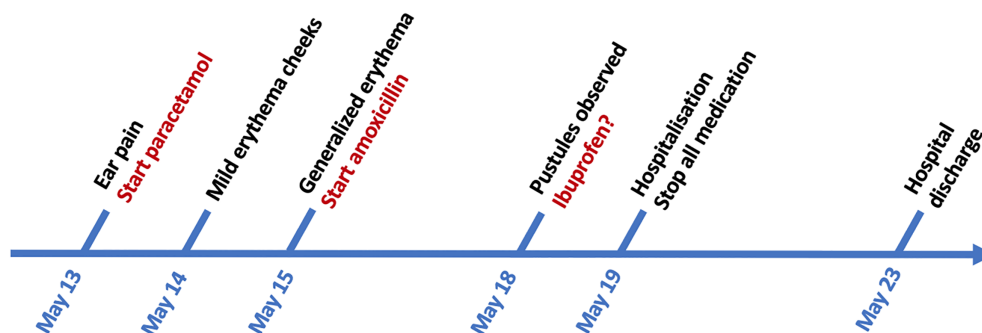


FIGURE 1 Timeline of medication administration in our patient.

FIGURE 2 Clinical image of AGEP in our patient. AGEP, acute generalized exanthematous pustulosis



FIGURE 3 Positive patch test on Day 4 for acetaminophen (paracetamol) 10% pet. with a partially pustular aspect.

DISCUSSION

To our knowledge, this is the first case of paracetamol-induced AGEP in a child confirmed by patch testing. It was quite difficult to reconstruct the intake of medication and the clinical course of the disease. An erythema without pustules developed after intake of paracetamol and before amoxicillin was started. Later on, she developed a typical clinical picture of AGEP with pustule formation occurring multiple days after the first administration of paracetamol. Paracetamol is absolutely contra-indicated in the future in this child.

CONFLICT OF INTERESTS

The authors declare no conflict of interests.

AUTHOR CONTRIBUTIONS

Hilde Lapeere: Conceptualization (lead); investigation (equal); writing – original draft (equal); writing – review and editing (lead). **Aurélien Aben:** Investigation (equal); writing – original draft (lead); writing – review and editing (equal). **Julie Willekens:** Investigation (equal); writing – review and editing (supporting).

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