

Co-amoxiclav-induced acute generalized exanthematous pustulosis confirmed by patch testing

Contact Dermatitis 2006; 55: 372

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Key words: acute generalized exanthematous pustulosis (AGEP); co-amoxiclav; patch test.

Case Report

A 34-year-old lady was referred from the maternity department with a rapidly evolving rash that had developed 2 days after an elective caesarean section. Examination showed a generalized itchy rash mainly involving her chest, back, and proximal limbs. The skin was erythematous, oedematous, and slightly scaly and was studded with small non-follicular pustules particularly over the groin and thighs. The patient was pyrexial and tachycardic and felt unwell.

An adverse cutaneous drug reaction was suspected, and all recent medication was reviewed. It is transpired that she had received a single intravenous dose of co-amoxiclav (amoxicillin and clavulanic acid—Augmentin®, Uxbridge, UK) during the caesarean section as a prophylactic measure based on departmental protocol. She had also received oral diclofenac as analgesia, subcutaneous enoxaparin for thromboembolism prophylaxis, and intravenous granisetron as an antiemetic prior to the rash developing.

A skin biopsy showed acute inflammation of both the epidermis and the dermis predominantly with neutrophils, marked papillary oedema, and small sub-corneal pustule formation. The diagnosis of acute generalized exanthematous pustulosis (AGEP) was made. All medication was stopped, and the rash quickly settled over the next 7 days with conservative management.

Three months later, she was patch tested to the British Contact Der-

matitis Society standard series, co-amoxiclav (1%, 5%, and 10% pet.), diclofenac (1% and 5% pet.), enoxaparin (1% and 5% aqueous), and granisetron (1% and 5% aqueous). She had +++ allergic reactions to all three concentrations of co-amoxiclav tested along with a +++ reaction to nickel. Diclofenac, enoxaparin, and granisetron patch tests were negative. The final diagnosis of co-amoxiclav-induced AGEP was made, and appropriate avoidance advice given.

Discussion

AGEP is an acute febrile eruption first described in 1980 by Beylot et al. (1). It is characterized by numerous non-follicular pustules arising on erythematous and oedematous skin. Fever and blood neutrophilia are also commonly found. Of particular note is the rapid evolution of the rash after the causative drug has been taken along with the quick resolution of the rash when the causative drug is withdrawn. AGEP is drug induced in more than 90% of cases with beta-lactam and macrolide antibiotics being the most common causative agents (2). It has been suggested that the cell-bound drug elicits a drug-specific T-cell reaction eventually resulting in neutrophil chemotaxis (3).

Wolkenstein et al. reported that 59 patients with severe cutaneous adverse drug reactions [including AGEP, Stevens–Johnson syndrome (SJS), and toxic epidermal necrolysis (TEN)] were patch tested to the suspected culprit drug(s). They found that in 50% patients ($n = 7$) with AGEP, a relevant positive patch test result was found. The proportion of relevant positive tests was significantly higher in AGEP than in SJS or TEN (4). Since then, a number of case reports and small series have shown positive results of patch testing in AGEP leading Watsky to suggest that the positive patch test rate may be in fact higher than the 50% quoted in the Wolkenstein study (5). He did, however, concede that these positive results may reflect publication bias. There has been one previous report of co-amoxiclav-induced AGEP (6). In this case, the diagnosis was also confirmed with patch testing.

This case highlights the potential role of patch testing in AGEP. It appears that the probability of getting a relevant positive result is greater in AGEP than in other severe adverse

drug reactions, including SJS or TEN. Patch testing may have a role in assessing the culpability of a suspect drug while avoiding the need for potentially dangerous provocation tests. It may also be particularly beneficial when numerous suspect drugs are considered as the cause of the reaction.

References

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