



Occupational acute generalized exanthematous pustulosis induced by disperse dyes in a textile

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Acute generalized exanthematous pustulosis (AGEP) is a severe eruption characterized by numerous non-follicular sterile pustules on an erythematous background. AGEP is mostly caused by systemic drugs, mainly antibiotics. Other causes of AGEP, such as contact with mercury, spider bites, and viral infections, have been described.¹ Disperse dyes (DDs) in textiles are frequent causes of contact dermatitis,² but have never been reported as being responsible for AGEP. Here, we report the first case of AGEP caused by textile DDs.

CASE REPORT

A 23-year-old woman with no medical history of interest presented to our dermatology department with non-follicular pustules on

oedematous erythema, particularly on her face, trunk, intertriginous areas, and extremities. She had also fever and neutrophilia (16 000/mm³). No bacteria or fungi were cultured from the pustules. Serological tests gave negative results. Skin biopsy showed subcorneal pustules associated with epidermal spongiosis. Our patient was diagnosed with AGEP according to the EuroSCAR group criteria (score of 11/12, certain)¹ but no evident aetiology was found (eg, drugs or mercury). She was treated with topical clobetasol, and the skin lesions vanished within 4 days. However, as soon as she returned to her work as a textile factory worker, she suffered a relapse within 1 day on the first occasion, and another relapse within 3 hours on the second occasion, with spontaneous rapid healing after being hospitalized.

Patch testing was performed with Finn Chambers on Scanpor tape, with the European baseline series and a textile dyes series

(Chemotechnique Diagnostics, Vellinge, Sweden). The occlusion time was 2 days, and reactions were evaluated on day (D) 2 and D3 according to ICDRG guidelines. The results showed positive reactions to Disperse Red 17 (+/+), Disperse Blue 3 (+/+), 4-aminophenol (+/+), 4-aminoazobenzene (+/+), and Disperse Blue mix (+/+). Thus, a diagnosis of occupational AGEP caused by DDs was indicated. To date, 7 years after the patient left her job, no clinical relapse has been observed.

DISCUSSION

According to the score of the EuroSCAR group criteria, the diagnosis of AGEP in our patient was certain.¹ Work-related AGEP was suspected, and relapse after resumption of work can be considered to be a positive provocation test. The responsibility of DDs was confirmed by patch testing. DDs are the most prevalent causes of textile-related allergic contact dermatitis,² but have never been reported as a cause of AGEP. Sener et al reported a case of AGEP resulting from the oral use of blue dyes after consumption of methylene blue and indigotin.³ A topical agent can exceptionally cause AGEP,⁴ but the mechanism is still unknown. However, systemic delivery is very likely. In fact, DDs do not adhere well to fabric, so a relatively large amount of the dye is released from the fabric and absorbed into the skin.² In our case, the patient was exposed to DDs not only from contact, but also via inhalation, as she was exposed to vapours released from dyes in the work area.

To the best of our knowledge, this is the first case of occupational DD-induced AGEP. It is important to be aware of this presentation among textile factory workers.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to report.

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