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Acute generalized exanthematous pustulosis induced by Mycoplasma pneumoniae infection

Dear Editor,

Acute generalized exanthematous pustulosis (AGEP) is a rare clinical entity characterized by widespread, pinhead, sterile pustules against an erythematous background occurring suddenly in association with fever.1,2 AGEP is characterized histologically by spongiform intraepidermal and/or subcorneal pustules. The eruptions develop acutely, but also self-heal rapidly. More than 90% of AGEP cases are associated with systemic drug administration, particularly antimicrobial drugs. In addition, AGEP cases triggered by infection have been described.2 Only one case of AGEP associated with Mycoplasma pneumoniae infection has been reported previously.3 Here, we report a second case of AGEP induced by M. pneumoniae infection.

A 22-year-old Japanese woman presented with a 1-week history of pruritic eruptions with burning sensation on the trunk and extremities, which had developed with high fever. She had been suffering from a sore throat and cough from 10 days prior to the appearance of skin eruptions. She had not taken any medications at all before the skin eruptions appeared. Physical examination revealed widespread, edematous, erythematous eruptions with multiple non-follicular pustules, 1–2 mm in diameter, on the trunk, forearms and thighs (Fig. 1a,b). Cervical, axillary and inguinal lymph nodes were bilaterally enlarged and painful. Body temperature was 39.2°C. Laboratory examination revealed increased levels of C-reactive protein level (0.8 mg/dL; normal, 0–0.3). Positive results were obtained for serum anti-M. pneumoniae immunoglobulin (Ig)M, and the serum anti-M. pneumoniae IgG titer was high, at 1:320 (normal, <1:40). Chest radiography revealed no abnormalities. Attempts to culture pustule contents yielded negative results. A biopsy of affected skin revealed subcorneal spongiform pustules with

Figure 1. (a) Edematous, erythematous eruptions on the thighs. (b) Multiple non-follicular pustules, 1–2 mm in diameter, in an area of erythematous eruption. (c) Histological findings. Subcorneal spongiform pustules with neutrophil infiltration, partial and slight spongiform changes of the epidermis and slight exocytosis of lymphocytes and neutrophils (hematoxylin–eosin, original magnification ×200).

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neutrophils and slight spongiform changes of the epidermis and slight exocytosis of lymphocytes and neutrophils (Fig. 1c).
Perivascular infiltration of lymphocytes, histiocytes and a small number of eosinophils was apparent in the upper dermis. Direct immunofluorescence showed negative results for IgG, IgM, IgA, C1q, C3 and C4. Based on these findings, the skin lesions were diagnosed as M. pneumoniae-associated AGEP.
The patient was treated with prednisolone at 40 mg/day and clarithromycin 400 mg/day, resulting in rapid improvement. Within 2 days, skin lesions had almost entirely disappeared.

The present patient showed definite AGEP based on the European Study of Severe Cutaneous Adverse Reaction validation score for AGEP. To the best of our knowledge, only one case of AGEP associated with M. pneumoniae infection has previously been reported in the English published work. That case involved a 31-year-old woman in whom skin eruptions appeared without preceding symptoms of infection. On the other hand, our patient developed skin eruptions after typical symptoms of M. pneumoniae infection. The present case confirms the previous report by Lim and Lim that M. pneumoniae infection can represent a causative factor for AGEP. Based on reports that some kinds of cells infected by M. pneumoniae produce interleukin (IL)-8, a chemokine that attracts neutrophils, we speculate that formation of subcorneal neutrophilic pustules mediated by IL-8 secreted by M. pneumoniae-infected keratinocytes may represent one pathomechanisms involved in M. pneumoniae infection-induced AGEP.

CONFLICT OF INTEREST: None declared.

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