

Case Report

A case of generalised pustular psoriasis mimicking acute generalised exanthematous pustulosis

一宗原以為急性泛發性發疹性膿皰症的泛發性膿皰型銀屑病 案例

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Differentiating between acute generalised exanthematous pustulosis (AGEP) and generalised pustular psoriasis (GPP) is very challenging because of clinical and histopathological similarities. A 60-year-old woman presented with pustular eruption and fever. She had taken dapsone and zaltoprofen for five days. Laboratory findings revealed neutrophil dominant leucocytosis and histopathological findings revealed a subcorneal spongiform pustule. Under the diagnosis of AGEP, she was treated with systemic steroids. However, the pustular lesions were aggravated after steroid reduction. In light of GPP, she was treated with acitretin and showed a good response. This case highlights the difficulty of differentiation between GPP and AGEP.

因臨床和組織病理學上的相似，要區別急性泛發性發疹性膿皰症和泛發性膿皰型銀屑病存在一定挑戰。一名60歲女仕身上呈現膿皰性皮炎，伴隨發燒徵狀；而過去五天患者曾服用氨苯砒和扎托洛芬。化驗結果顯示出以嗜中性白血球為主的白細胞增多，組織病理學可見角質層下海綿狀膿皰，病情與急性泛發性發疹性膿皰症吻合，故獲處方全身性類固醇治療。然而，膿皰在減少類固醇劑量後反覆惡化，故診斷重新修訂為泛發性膿皰型銀屑病，改用阿維A治療，並得到良好的療效。這宗病例突顯出泛發性膿皰型銀屑病和急性泛發性發疹性膿皰症兩者之間的辨別困難。

Keywords: Acute generalised exanthematous pustulosis, dapsone, generalised pustular psoriasis, pustular eruption, subcorneal pustule

關鍵詞：急性泛發性發疹性膿皰症、達普頌（氨苯砒）、泛發性膿皰型銀屑病、膿皰性皮炎、角質層下膿皰

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Introduction

Generalised pustular psoriasis (GPP) is a rare variant of psoriasis, while acute generalised exanthematous pustulosis (AGEP) is an uncommon drug eruption. Differentiating between these two diseases is difficult for two main reasons. Firstly, the morphology of the pustules and initial clinical symptoms are very similar. Secondly, there is no clear rule for the differentiation of both diseases.^{1,2}

Therefore obtaining a detailed clinical history and clinico-pathological correlation are important for an accurate diagnosis. No previous history of psoriasis, rapid spontaneous resolution without treatment, the presence of eosinophilic infiltration, the absence of histopathological features of psoriasis such as epidermal hyperplasia, and capillary dilatation indicate AGEF more than GPP.³

We report a case of a generalised pustular eruption that was initially diagnosed as AGEF, but later appeared more compatible with GPP.

Case report

A 60-year-old woman visited the emergency department (ED) with generalised erythematous pustular eruption, generalised oedema and fever. Before visiting the ED, she had been treated with methylprednisolone (8 mg bid, PO) and bepotastine (10 mg bid, PO) for the treatment of drug eruption due to herbal medication. At that time, pruritic well-defined erythematous annular patches were seen on her trunk, and some of the patches on her neck had a few non-follicular tiny pustules. As the skin rash had waxed and waned over two weeks, she visited another hospital and was prescribed dapsons (100 mg qd, PO) and zaltoprofen (80 mg bid, PO). After taking the new medications for five days, the pustular eruption rapidly exacerbated and generalised oedema and fever occurred. The patient was on long-term treatment for hypertension and diabetes mellitus, there was no previous history of drug allergies or psoriasis. Physical examination showed numerous non-follicular, pinhead-sized pustules on a background of confluent slightly scaly erythema on her entire body (Figure 1). Her face and both hands were oedematous. Her body temperature was 38.7°C and the body weight of the patient was 67.3 kg. Laboratory tests revealed leucocytosis ($15.51 \times 10^9/L$) with neutrophilia (85.9%) and elevated C-reactive protein (16.88 mg/dL). Her liver function test was normal,

both influenza antigen and blood culture were negative. Histopathological examination showed subcorneal spongiform pustule mainly filled with neutrophils in the epidermis and perivascular inflammatory cell infiltration with neutrophils and lymphocytes in the dermis (Figure 2). Based on these findings, her condition was diagnosed as AGEF triggered by dapsons or NSAIDs. The patient stopped her current drug regime and was started on a new treatment regime comprising systemic steroids, topical emollients and steroid cream. The fever and skin lesions improved, however, new pustular lesions were aggravated immediately after a dose reduction of steroid. A new biopsy was not taken at this point, as the morphology was identical to that of the previous eruption. As the skin lesions worsened after lowering the dosage of steroid, the clinical diagnosis was changed to GPP. The patient was given acitretin (30 mg/day) and the steroid dose was tailed off. The pustular lesions and scales improved within three weeks; there was no recurrence during six months of follow-up.

Discussion

AGEF is a rare, severe cutaneous drug adverse reaction characterised by acute onset of numerous non-follicular pustules arising on an erythematous



Figure 1. Erythematous scaly patches with multiple tiny pustules observed on the entire body.

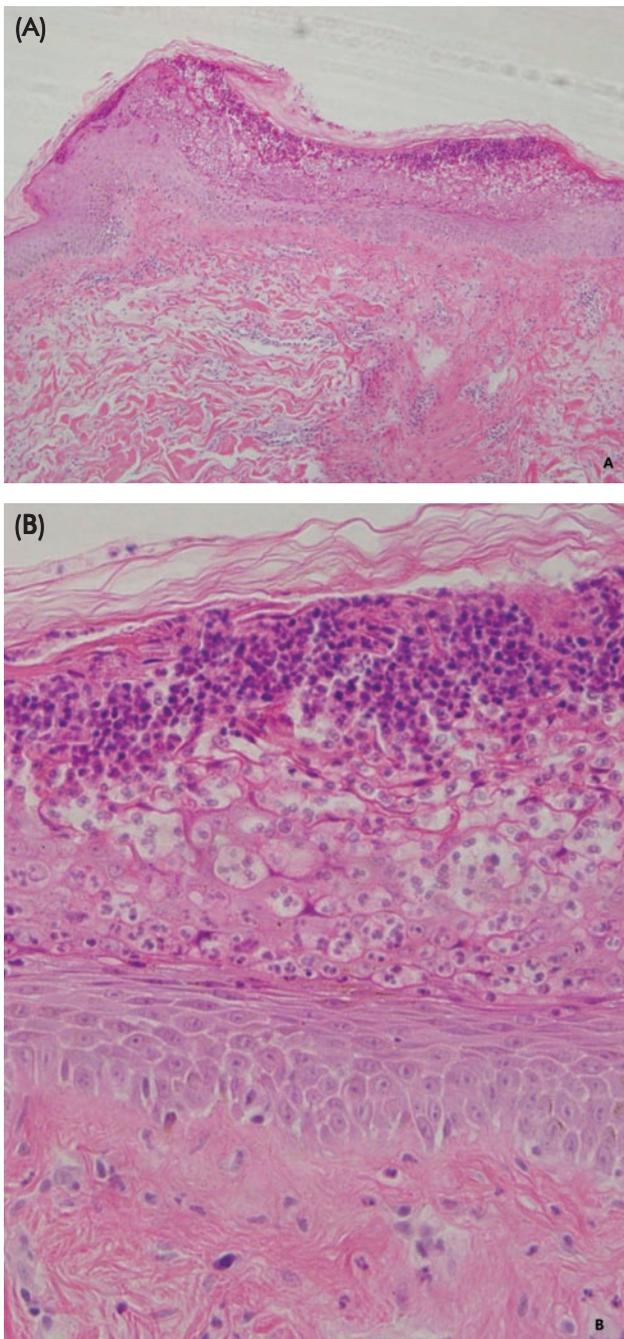


Figure 2. Histopathological examination showed a subcorneal pustule with spongiosis and slight acanthosis in the epidermis and perivascular inflammatory cell infiltration in the upper dermis (H&E, A: x100, B: x400).

background.³ Pustular eruption appears with fever and neutrophilic leucocytosis. Although anti-infectives such as antibiotics, antifungals, and antimalarials are the most common causative agents, other non-anti-infective drugs including dapsone and NSAIDs, viral infection, as well as herbal medicine could also be causative factors of AGEF.^{4,5} Histopathological findings reveal subcorneal spongiform pustules with perivascular infiltration of neutrophils and some eosinophils.⁶ AGEF shows spontaneous resolution in less than 15 days with conservative treatment; discontinuation of the culprit medication is important.

GPP is a rare form of psoriasis characterised by extensive pustular eruption, accompanied by extensive exfoliation, and generalised symptoms such as fever, chills and arthralgia. Characteristically, the disease occurs in waves of fever and pustules. The cause is obscure; however, some provoking agents or events are well recognised. These include local irritating substances, infections, pregnancy, and drugs such as lithium, aspirin and hydroxychloroquine.⁷ Steroid withdrawal can trigger pustular psoriasis as pustule formation can occur as a result of an acute inflammatory process upon the cessation of systemic corticosteroids.⁸ Histopathological findings include subcorneal spongiform pustules, but epidermal hyperplasia may not be obvious compared to psoriasis. GPP can occur with or without plaque psoriasis, a previous history of psoriasis was reported in 42.4% of GPP in Korean patients.^{9,10} Although there are no guidelines for management of GPP, acitretin, cyclosporine, methotrexate and TNF- α inhibitors are suggested for first-line therapies.¹¹

Recently, a systemic description of the histopathological distinction between AGEF and GPP has been published.¹² Despite considerable overlap, the presence of eosinophils, necrotic

keratinocytes, and absence of pathological features of psoriasis such as acanthosis, tortuous or dilated blood vessels are associated with a diagnosis of AGEP. However, no single histopathological feature is decisive on its own. Therefore, differentiating AGEP from GPP remains a challenge. As both AGEP and GPP usually present with erythematous pustular eruptions and fever with undistinguishable histological findings, the diagnosis becomes more evident as the disease progresses. The absence of personal or family history of psoriasis with a spontaneous resolution without treatment indicates a diagnosis of AGEP. It is found that AGEP has a more rapid onset after ingestion of the culprit drug, and a shorter duration of fever and pustules when compared with GPP.³

In this present case, the patient was initially diagnosed as AGEP. The generalised pustular eruption, abrupt onset of fever, leucocytosis with neutrophilia, history of new medication, subcorneal pustule, and the lack of history of psoriasis were consistent with a diagnosis of AGEP. However, the pustular lesions did not improve after the discontinuation of culprit drugs and worsened with the withdrawal of systemic steroid. Therefore, we duly reconsidered GPP as the differential diagnosis and acitretin was chosen for the treatment of GPP. The skin eruption resolved after the patient was given acitretin, with no relapse observed for six months. Finally, we concluded that the pustular eruption was not AGEP but GPP.

Herein, we report a case of generalised pustular eruption initially diagnosed as AGEP, but the diagnosis was modified to GPP considering its clinical course. This case shows the difficulty of establishing a diagnosis for a pustular eruption and the necessity for re-evaluating the differential diagnoses to provide the best treatment.

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