International Journal of Health Sciences and Research
Vol.12; Issue: 6; June 2022
Website: www.ijhsr.org
Case Report *ISSN: 2249-9571*

Acute Generalized Exanthematous Pustulosis; A Case Report

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DOI: https://doi.org/10.52403/ijhsr.20220624

ABSTRACT

Introduction: Acute generalized exanthematous pustulosis (AGEP) is a severe allergic skin reaction associated with substance use. Not all drugs cause an AGEP reaction. The incidence of AGEP is extremely rare compared to other drug allergies. Therefore, correct identification and proper history acquisition are important for the purpose of providing appropriate and prompt treatment to patients, improving good prognosis and reducing mortality.
Case Presentation: A 17 years antique male affected person, got here with leader proceedings of purple spots at the palms and ft observed with the aid of using itching. Red spots seem after the affected person takes the drug. The affected person became given remedy withinside the shape of oral antihistamines, intravenous steroids, and topical steroids. The affected person became discharged from the health center in excellent condition.
Conclusion: Acute Generalized Exanthematous Pustulosis is a skin disorder that is generally caused by drugs and has a good prognosis because it can heal by itself.

Keywords: acute generalized exanthematous pustulosis, drug eruption, skin, disease

INTRODUCTION

Acute generalized exanthematous pustulosis (AGEP) a severe allergic reaction of the skin and mucous membranes that results from systemic drug administration. 1.4 Not all drugs can elicit an AGEP response. Systemic involvement occurs in about 20% of cases. AGEP is a rare side effect, with an incidence of 1-5 cases per million people annually, but may not be reported. This can occur at any age and is more common in women 2. The incidence of AGEP is said to be lower than the incidence of drug allergies. Coping with drug allergies can be established with a proper diagnosis. The accuracy of the diagnosis of this disease is very important because the symptoms that occur are very similar, and in general even skin diseases are similar. Therefore, correct identification and proper medical history are important to ensure that patients receive appropriate and prompt treatment with the goal of improving good prognosis and reducing mortality.

CASE HISTORY

A 17 years old male patient, was brought by his family to the Singaraja General Hospital with chief complaints of red spots appearing on his hands and feet since 1 day after taking the medicine from the doctor. Initially, the patient had a fever with diarrhea since two days before entering the hospital. The patient's parents gave the patient a drug called *Supertetra* without consulting a doctor. Because the complaints did not get better, the patient's parents took their child to the doctor and were given paracetamol, *ORS*, *metronidazole*, and *ranacid* (aluminium hydroxide and dimethylpolysiloxane). After take medicine

from the doctor, reddish spots began to appear on the skin. The patient continued to scratch but the patient could not say his complaint because the patient had mental retardation. The patient continued to scratch and the red spots spread, the patient's family then took the patient to consult a midwife. The drugs given by the midwife were *paracetamol*, *chlorpheniramine maleate*, and *aluminium hydroxide*.

Patient never had experienced the same thing before. The patient only had a history of mental retardation. The patient has no history of systemic disease or history of allergies. General status at the time of examination within normal limits and found no abnormalities other than abnormalities in the skin.

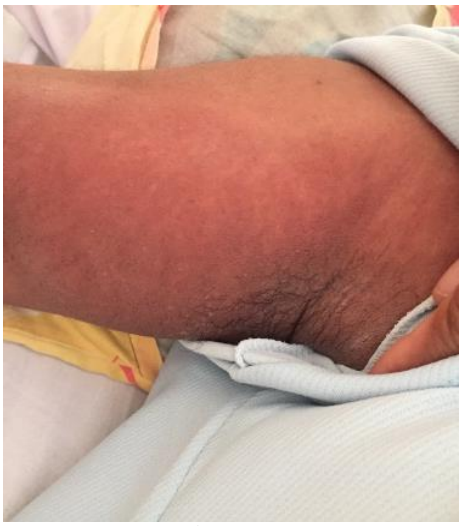

figure 1a.

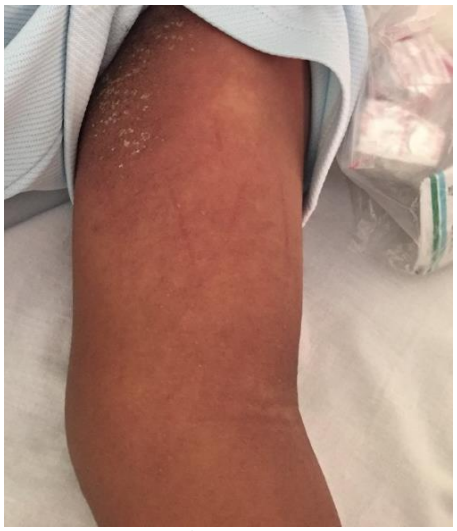

figure 1b.

Fig 1a multiple pustule at right axilla. **Fig.** 1b multiple pustule at left axilla

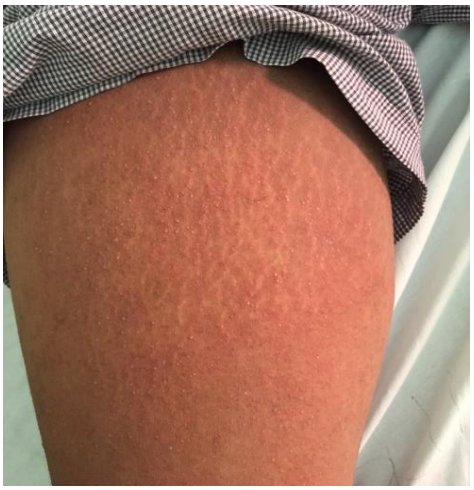

figure 1c.

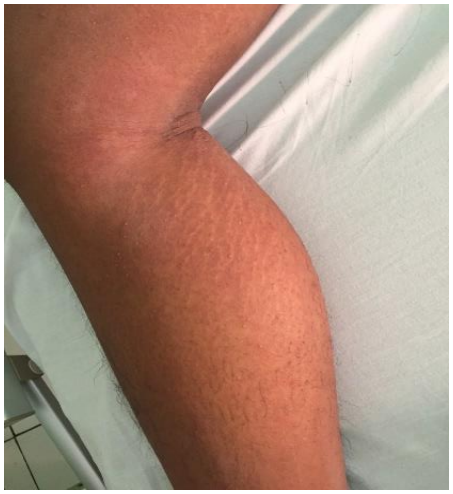

figure 1d.

Fig. 1c and 1d multiple pustule at legs

Dermatological status of the patient in right and left axilla were multiple pustules on erythematous skin (Fig. 1a-1b). Pustules were also found on both legs of the patient (fig. 1c-1d). On laboratory investigations, the results showed Hb 13.3 g/dl, hematocrit 37.3 g/dl, leukocytes 25.0 g/dl, platelets 209 g/dl, neutrophils 21.4 g/dl. The patient's EuroSCAR score is 8.

The patient was diagnosed with Acute Generalized Exanthematous Pustulosis. The patient was hospitalized for 4 days. The therapy given to the patient is non-medical therapy and medical therapy. Non-medical therapy in the form of

confirmation, namely explaining to families and patients about the causes of the patient's illness, information that includes the course of the disease, prognosis and whether or not the disease is contagious, education to stop using drugs and keep the skin clean to prevent secondary infection and reduce scratching. The medical therapy was normal saline infusion, oral cetirizine 10 mg/day, methylprednisolone IV 125 mg, and topical therapy mixture of dexamethasone 30 g + gentamicin 15 g. After 4 days of treatment, the patient was no longer itching and complaints improved so that the patient was discharged in good condition.

DISCUSSION

Acute generalized exanthematous pustulosis (AGEP) is a rare inflammatory condition of the skin and mucous membranes, characterized by the acute onset of sterile non-follicular pustules and their rapid resolution.[1,2] The typical clinical picture may be an acute eruption of sterile non-follicular pustules on erythematous skin, preceded or accompanied by pruritus and fever (>38°C). Small pinhead pustules <5 mm in size, white in color, on an erythematous and edematous skin base and sometimes have a positive Nikolsky sign. The lesions have a predilection for the folds but are generally scattered. Although rare, AGEP lesions can be atypical including facial edema, purpura, blistering, or resembling the target lesion.[3,8]

Drugs with the highest risk of causing AGEP include *pristinamycin*, *aminopenicillins*, *quinolones*, *hydroxy-chloroquine*, *sulfonamides*, *terbinafine* and d*iltiazem*. (NSAIDs), and all antiepileptic drugs except valproic acid.[6,8] Sensitivity reactions to mercury, vaccination in the pediatric population and spider bites are also suspected to be factors causing AGEP.[3,8] Infection is suspected to cause AGEP but not many evidence have been found, some reports suggest that viral infections (parvovirus infection, cytomegalovirus, and coxsackie B4 virus) are associated with AGEP.

In addition to the history and physical examination, the EuroSCAR score (Figure 2) can be used to aid in the diagnosis of AGEP.

Morphology	
Pustules	
Typical*	2
Compatible**	1
Insufficient***	0
Erythema	
Typical	2
Compatible	1
Insufficient	0
Distribution/pattern	
Typical	2
Compatible	1
Insufficient	0
Postpustular desquamation	
Yes	1
No/insufficient	0
Course	
Mucosal involvement	
Yes	± 2
No	0
Acute onset (± 10 d)	
Yes	0
No	± 2
Resolution ± 15 days	
Yes	0
No	± 4
Fever ± 38 ±C	
Yes	1
No	0
PNN ± 7000/mm³	
Yes	1
No	0
Histology	
Other disease	± 10
Not representative/no histology	0
Exocytosis of PNN	1
Subcorneal and/or intraepidermal *non* spongiform or NOS pustule(s) *with* papillary edema or subcorneal and/or intraepidermal *spongiform* or NOS pustule(s) *without* papillary edema (NOS not otherwise specified)	2
Spongiform subcorneal and/or intraepidermal pustule(s) *with* papillary edema	3

Interpretation: ± 0: no AGEP, 1–4: possible, 5–7: probable, 8–12: definite.
Remarks: Patients are not included in the study, if only localized pustules are reported, the pustular rash already lasts longer than 3 weeks or a clear alternative diagnosis has been made by a dermatologist.
*Typical: typical morphology as described in the "clinical features" section
**Compatible: not typical, but not strongly suggestive of other disease.
***Insufficient: lesions can not be judged (mostly because of late stage of the disease or poor quality of pictures).

Fig 2. EuroSCAR Scoring

If the EuroSCAR score is above 7, the patient is definite diagnosed with AGEP. On histopathological examination, the characteristic features of sub/intracorneal, intraepidermal or combined spongiform pustules are more than 90% of cases.[10] On laboratory examination, laboratory abnormalities in AGEP patients are generally non-specific. An increase in the neutrophil count (>7,109/l) from laboratory studies is found in 90% of cases. There is a mild increase in eosinophilia in about 30% of AGEP cases. Renal function is slightly decreased (creatinine clearance <60 mL/min) in 30% of cases, with pre-renal azotemia. Hypocalcemia and mild elevation of aminotransferase (<2x normal high value). In general, there is no involvement of internal organs.[9,10]

AGEP disorders are self-limiting but pustular eruptions on the skin may persist for up to 9 days (mean 4-14 days) followed by spontaneous resolution with desquamation. Mucous membrane

involvement is found in 20% of cases, is generally mild and affects only one area of the mucosa (mostly erosions in the mouth and tongue). Lymphadenopathy has been reported in some cases.[9] Specific treatment for AGEP is generally not required due to the self-limiting character of the disease. No therapy is available to prevent the expansion of the lesion and further deterioration of the patient's general condition.[9] Discontinuation of the suspected causative drug therapy is the primary option. Symptomatic treatment such as antipyretics or antihistamines can be used to relieve the patient's complaints. Antibiotics should be used when there is a clear diagnosis of infection. In most cases systemic corticosteroids can be used, and in rare cases infliximab and etanercept can be used, which can quickly stop the formation of pustules and speed up the resolution of the pustules.[7]

CONCLUSION

AGEP is a skin disorder that is generally caused by drugs, can occur acutely after taking drugs. The etiopathogenesis of AGEP is unclear, presumably due to drug use, infection and hypersensitivity to mercury. The typical clinical picture of AGEP is non-follicular pustules that appear on the skin, which are erythematous and accompanied by fever. AGEP management is discontinuing the suspected drug, followed by symptomatic therapy. The prognosis is generally good and self-limiting, unless secondary infection is present.

DISCLOSURES

Acknowledgement: The Authors are responsible for this study and also reports there is no conflicts of interest in this work.

Authors' Contribution: All authors contribute in concepting, designing, conduct the study, prepare the manuscript and agree for this final version of manuscript to be submitted to this journal.

Conflict of Interest: The author reports no conflicts of interest in this work.

Source of Funding: None

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How to cite this article: Putu Resika Melarosa, Harry Supradnyan. Acute generalized exanthematous pustulosis; a case report. *Int J Health Sci Res.* 2022; 12(6):182-185. DOI: *https://doi.org/10.52403/ijhsr.20220624*

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