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Ecthyma Gangrenosums Successfully Treated with an Individualized Homoeopathic Medicine Graphites: A Case Report

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Abstract

Ecthyma gangrenosum (EG) is a clinical manifestation often linked with bloodstream infections caused by the bacterium *Pseudomonas aeruginosa*. This condition predominantly occurs in individuals with compromised immune systems, particularly those who have underlying malignancies or other conditions that weaken their ability to fight off infections effectively. *Ecthyma gangrenosum* typically presents as necrotic skin lesions, which can rapidly progress into deep ulcers with surrounding inflammation and tissue damage. Recognizing EG is crucial as it serves as a significant indicator of *Pseudomonas septicemia*, necessitating prompt and targeted medical intervention to address both the localized skin infection and the underlying systemic bacterial invasion. In this case report we present a case of *Ecthyma gangrenosum*, patient presented with complaints of papular, pustular gangrenous eruption on right leg with itching and sticky discharge. Itching aggravated onbed. After complete case taking and based on totality of symptoms and repertorisation *Graphites* 30/1Dose (water dose) followed with placebo 30/tds was prescribed.

Keywords: Case Report, Ecthyma gangrenosum, Graphites, Homoeopathy, Skin Conditions.

Introduction

Ecthyma gangrenosum (EG) is a rare but serious cutaneous infection primarily caused by the bacterium *Pseudomonas aeruginosa*. It is most often associated with individuals who have compromised immune systems, and it can serve as an important indicator of underlying systemic conditions, particularly in immunocompromised patients. EG typically arises in two distinct forms: the classical or bacteremic type and the localized or non-septicemic type, each with different clinical implications (1).

The classical form of EG occurs when *Pseudomonas aeruginosa* enters the bloodstream, leading to bacteremia, and spreads through the body. This form is particularly dangerous as it can rapidly progress to a systemic infection, involving multiple organs and leading to sepsis, shock, and potentially death. The development of EG in the context of bacteremia is considered a medical emergency due to the high likelihood of severe systemic complications. The infection often manifests as rapidly progressing, painful, necrotic lesions on the skin, which may be mistaken for other skin conditions initially. The spread of infection beyond the skin can lead to widespread tissue damage, multi-organ failure, and septic shock.

The localized form of EG, on the other hand, is typically restricted to the site of entry of *Pseudomonas aeruginosa* into the skin, often through an abrasion, cut, or other trauma. In this case, the infection remains confined to the skin and does not progress to bacteremia. While it is less life-threatening than the bacteremic form, localized EG can still result in significant skin damage and scarring. Prompt treatment is essential to prevent progression to a more severe, systemic infection.

The prognosis of EG is heavily influenced by the patient's immune status. Immunocompromised individuals, particularly those undergoing chemotherapy, organ transplant recipients, and patients with conditions like diabetes, leukemia, or HIV/AIDS, are at heightened risk for developing both EG and its more severe bacteremic form. The underlying immune dysfunction allows *Pseudomonas aeruginosa* to invade and spread

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more easily.

In terms of mortality, the outcomes of EG depend significantly on whether the infection remains localized or progresses to bacteremia. For patients with EG and associated *Pseudomonas*-related septicemia, the mortality rate is alarmingly high, ranging from 38% to 77%. This reflects the severity of systemic involvement, with death typically occurring due to sepsis, multi-organ failure, or shock.

In contrast, patients with localized EG who do not develop bacteremia generally have a better prognosis. Mortality rates for non-septicemic EG are much lower, hovering around 15%. This group of patients may recover with appropriate antimicrobial therapy and supportive care, although they may still face significant morbidity due to the potential for skin necrosis and the need for wound care (1).

Neutropenia, a condition characterized by a low neutrophil count, is a critical prognostic factor for EG. Neutrophils play an essential role in the body's defence against bacterial infections, including *Pseudomonas aeruginosa*. When neutropenia is present, the immune response to bacterial invasion is impaired, which can lead to more rapid and severe progression of the infection. This is particularly concerning in patients undergoing chemotherapy or those with hematologic disorders, where neutropenia is a common side effect. Studies have shown that neutropenia at the time of EG diagnosis is associated with significantly higher mortality rates, even in cases where the infection is localized. In severe cases of EG with neutropenia, patients are at greater risk of developing bacteremia and sepsis, further compounding the risk of death (2).

The treatment of EG involves a combination of antimicrobial therapy and, in some cases, surgical intervention to debride necrotic tissue. The primary antibiotics used to treat *Pseudomonas aeruginosa* infections include beta-lactams (such as piperacillin-tazobactam), fluoroquinolones, and aminoglycosides. In the case of bacteremia, intravenous antibiotics are typically administered, and supportive care, including fluids and vasopressors, may be required to manage shock or organ failure.

For localized EG, early diagnosis and appropriate antibiotic therapy can lead to resolution of the infection with minimal long-term effects, although the skin lesions may require wound care and occasional surgical debridement to remove necrotic tissue. Additionally, identifying and addressing any underlying conditions, such as neutropenia or immunosuppression, is crucial to prevent recurrence and to improve overall outcomes.

In summary, ecthyma gangrenosum is a severe and potentially life-threatening infection caused by *Pseudomonas aeruginosa*. Its prognosis is largely dependent on the form of the infection (localized vs. bacteremic), the patient's immune status, and the presence of neutropenia. While localized EG may be treatable with antibiotics and wound care, the bacteremic form carries a high mortality rate, especially in patients with significant immunosuppression. Early detection, prompt treatment, and management of underlying conditions are essential in improving outcomes for patients with EG (2).

Case Report

Patient Information

A 34-year-old male patient presented at the outpatient department (OPD) of Girendra Pal Homoeopathic Hospital and Research Centre with a chief complaint of painful, Papular, Psustular gangrenous eruptions localized on his right leg. Additionally, the patient reported experiencing intense itching, particularly exacerbated while lying in bed. Notably, the patient exhibited symptoms suggestive of emotional distress, as evidenced by feelings of despair that seemed to affect his daily functioning. Furthermore, he described difficulties in concentration and a marked aversion to sweet foods.

History of Presenting Complaint

Patient presented with painful, papular, pustules gangrenous eruptions on right legfor more than 3-4 months with sticky discharge, itching aggravated on bed (Table 1).

Past History: Took Allopathic medication for 2-3 months for same complaint

Family History: Mother-Healthy & alive, Father-Healthy & alive

Personal History: Nothing specific

Physical General

- Thermal- sensitive to cold
- Cravings- cold drinks
- Aversions- sweet
- Appetite- 2 meal/day

- Thirst- 2-3 lit/day
- Stool- D_2N_0, flatulence
- Urine- $D_{4-5}N_{0-1}$
- Perspiration- on exertion only
- Sleep- 8-9 hours/day, refreshed

Mental General: Despair, Difficulty in concentration, Fear is marked in morning (Table 2).

Investigation: Advice CBC with ESR, HBA^1C

Table 1: Examination

	Right Leg	**Left Leg**
Inspection	Papular, pustular, gangrenous eruptions	Normal
Palpation	Tenderness	Normal

Diagnosis: Ecthyma gangrenosum

Miasmatic Analysis: Miasmatic evaluation for the presenting symptoms was done with the help of the chronic disease by Dr. Hahnemann showed the pre dominance of syphiliticmiasm (3).

Table 2: Analysis and Evaluation of Symptoms

Mental General	**Physical General**	**Particular**
Mind- despair about his skin complaints. • difficulty in concentration, • Fear in morning	T/R-chilly Aversion- sweets Cravings-cold drinks	Papular, pustular eruptions on right leg Gangrenous eruptions Discharge sticky Itching < bed in

Totality of Symptoms

- Painful, pustule, gangrenous eruptions observed on the right leg, accompanied by a sticky discharge
- Intense itching reported, notably exacerbated while lying in bed, suggesting a potential correlation between exacerbation of symptoms and pressure on affected areas.
- Patient expresses feelings of despair attributed to his skin complaints, indicating a psychological impact of the condition on his overall well-being.
- Difficulties in concentration noted, potentially affecting the patient's ability to engage in daily activities and tasks.
- Marked aversion to sweets reported, which may indicate altered taste perception or metabolic dysfunction.
- Patient exhibits a preference for warmth, indicating a chilly predisposition

Repertorisation

After case taking and analysis, the characteristic symptoms were taken and converted into rubrics for repertorisation as follow.

- Mind-despair-trifles, about
- Mind-concentration-difficult
- Mind-fear-morning
- Generalities-food and drinks-sweets-aversion
- Skin-eruptions-crusts, scabs-scratching after
- Skin-eruptions-pustules
- Skin-itching-warmth-agg-bed of

Remedy Name	Graph	Lyc	Sulph	Phos	Merc	Puls	Caust	Calc	Rhus-t	Ars
Totality	23	21	20	18	17	15	15	14	14	13
Symptoms Covered	7	6	6	6	5	6	5	5	5	6
Kingdom	Minerals	Plants	Minerals	Minerals	Minerals	Plants	Minerals	Minerals	Plants	Minerals
[Complete] [Mind]Despair:Trifles, about: (2)	3									
[Complete] [Mind]Concentration:Difficult: (575)	4	4	3	4	3	3	4	3	2	1
[Complete] [Mind]Fear:Morning: (45)	3	3	1	3		2	1		1	1
[Complete] [Generalities]Food and drinks:Sweets:Aversion: (87)	4	3	4	3	3	1	4	1		3
[Complete] [Skin]Eruptions:Crusts, scabs:Scratching, after: (49)	3	4	4	1	3	1		3	4	1
[Complete] [Skin]Eruptions:Pustules: (323)	3	4	4	4	4	4	3	4	4	4
[Complete] [Skin]Itching:Warmth:Agg.:Bed, of: (105)	3	3	4	3	4	4	3	3	3	3

Figure 1: Repertorisation of Case from Complete Repertory using ZOMOEO ELITE (4)

Justification

After repertorisation *Graphites 30*/1dose/stat was chosen followed by placebo for 7 days in first visit.

- **30C potency** is commonly used because it is effective for **chronic conditions** or those that have been present for a long time but also require a gentle and deep acting remedy.
- The **1 dose/stat** (one dose at a time) indicates that Graphites 30C was given as a single dose, which is often done in homeopathy when a remedy is anticipated to act deeply or for an extended period, allowing time to observe its effects.

General Management

The patient was advised to maintain hygiene.

Table 3: Follow Ups

Date	Main symptoms/findings	Medicine prescribed
12/10/2023	Papular, pustular eruptions on right leg Gangrenous eruptions Discharge sticky Itching < bed in. despair about his skin complaints. -difficulty in concentration	Graphites 30/1dose /water dose Rubrum 30/tds * 14 days
26/10/2023	Slight relief in eruption and discharge, despair attributed about his complaints present with difficulty in concentration.	Rubrum 30/TDS *14 days
10/11/2023	Much better in eruption with discharges, relief in his despair attributed about his complaints.	Rubrum 30/tds
24/11/2023	Better eruption now dry crust appears.	Rubrum 30/tds *7 days
1/12/2023	Dry crusty eruption is better, his attribution is also better, now he concentrating towards is daily activity.	Rubrum 30/tds *14days
18/12/2023	All complaints better	Rubrum 30/tds *14 days

Discussion

After analysis of a case of Ecthyma gangrenosum, medicine selection basis is the totality of symptoms and repertorisation. Symptoms are papular, pustular eruption on right leg, for 3-4 months with sticky discharge, itching aggravated on bed, aversion to sweets. *Graphites* covered all symptoms. Hence *Graphites30/*1 dose was given followed by placebo for 7 days. In the case pictures evidence suggest curative action of *Graphites* (5, 6) (Table 3, Figure 1).

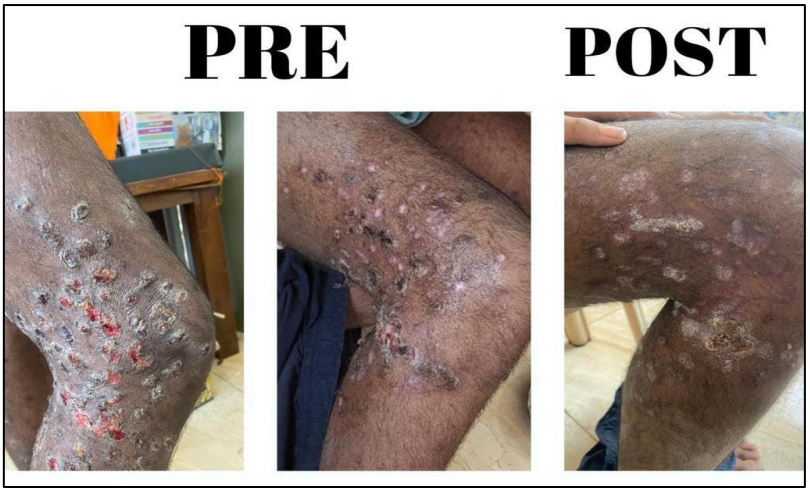

Figure 2: Patients with skin diseases

Conclusion

Patients afflicted with skin diseases often express feelings of despair stemming from their condition, highlighting the significant psychological burden it imposes on their overall well-being, leading to heightened mental distress. The cornerstone of managing such cases lies in providing reassurance and counseling not only to the patients but also to society at large. Investigations are seldom necessary in these instances. This case presentation serves as an explanatory narrative illustrating the impact of a skin disease (Figure 2). However, it's essential to note that numerous other skin ailments can be effectively managed with homeopathic remedies tailored to the individual's characteristic symptoms. While treating skin diseases presents a substantial challenge for homeopathy, our arsenal of homeopathic medicines can lead to successful outcomes with diligent application.

Abbreviation

None.

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Author Contributions

All authors contributed equally.

Conflict of Interest

The authors declare no conflicts of interest related to this study.

Ethics Approval

Participant provided informed consent before participating in the study.

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