Ecthyma Gangrenosum: A Rare Cutaneous Manifestation Caused by Pseudomonas Aeruginosa in a Previously Healthy Newborn

DR.Vikram Ramalingam, DR.Samikannu Ramesh, DR.Ramanathan

Department of Paediatrics ,Rajah Muttiah Medical College and Research Institute,Annamalai University ,India.

***Abstract*-** Ecthyma gangrenosum (EG) is a cutaneous lesion classically associated with potentially fatal pseudomonal septicemia in immunocompromised patients. Other bacterial and fungal pathogens have also been implicated in EG. EG typically occurs in neutropenic or immunocompromised patients, it can occasionally affect previously healthy children. The cutaneous findings are characteristic with small indurated papulovesicles progressing rapidly to necrotic ulcers with surrounding erythema and a central black eschar. While lesions can occur at any site, most are commonly found over the buttocks, perineum, limbs, and axillae. We describe A case of EG in paediatric patient who responded to appropriate antibiotic treatment for Pseudomonas bacteremia. For patients with possible EG, it is very important to establish the diagnosis early so that appropriate systemic antibiotic therapy can be initiated to reduce morbidity and mortality.

***Index Terms*-** ecthyma gangrenosum,pseudomonas, paediatrics, ceftazidime

I. INTRODUCTION

Ecthyma gangrenosum (EG) is a well-described skin lesion classically associated with *Pseudomonas* septicemia in immunocompromisedpatients, but may also be caused by other bacterial and fungal organisms [1]. The lesions characteristically appear as small indurated papulovesicles progressing rapidly to necrotic ulcers with surrounding erythema and a central black eschar [2]. Ecthyma gangrenosum is caused by invasion of microorganisms into the media and adventitia of subcutaneous vasculature, precipitating a hemorrhagic occlusive vasculitis [2,3]. Although rare, the presence of EG is indicative of severe systemic infection with a potentially fatal prognosis. Mortality rates for EG range from 15% to as high as 77% based on reports in the literature [4-11]. Factors that are associated with higher mortality include neutropenia,septic shock, inappropriate or delayed antibiotic therapy, and resistant microorganisms [1,7-12]. we report a case of *Pseudomonas*-associated EG that illustrate the assortment of clinical and histo-pathologic findings in this disease .

II. CASE SUMMARY

One month old female infant born to second degree consanguineous parents presented with fever and refusal of feeds for three days duration. Antenatal history was uneventful. On physical examination, she was febrile (Temperature-101^0F) and hemodynamically stable. She had hepatosplenomegaly. On day three of hospital stay she developed a small vesicular lesion over the right thigh which later on after 24 hours rapidly developed in to necrotic black eschar with a blister surrounded by an intense red areola over the right thigh**(fig.1)**. Peripheral blood smear showed neutrophilic leukocytosis. Blood culture revealed Pseudomonas aeruginosa growth,.histology of the tissue revealed occlusive vasculopathy with gram negative rods in media and adventitia of vessels. Coagulation profile was normal. On day five of hospital stay the lesion extended to the right gluteal region, skin over the Achilles region, right foot and the external genitalia**(fig.2)**and later after 12 hours it spread to the left side of the thigh and gluteal regions**(fig.3)** even after treatment with ceftazidime.

I. FIGURES

fig 1.

Fig 2.

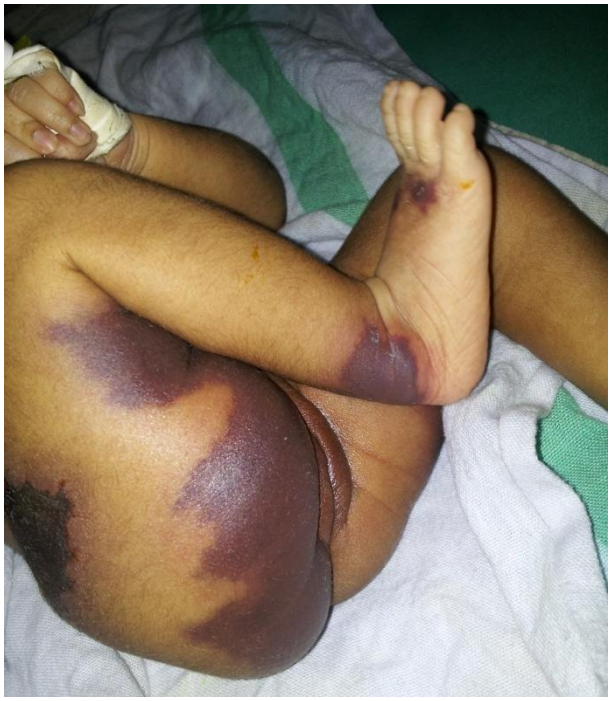
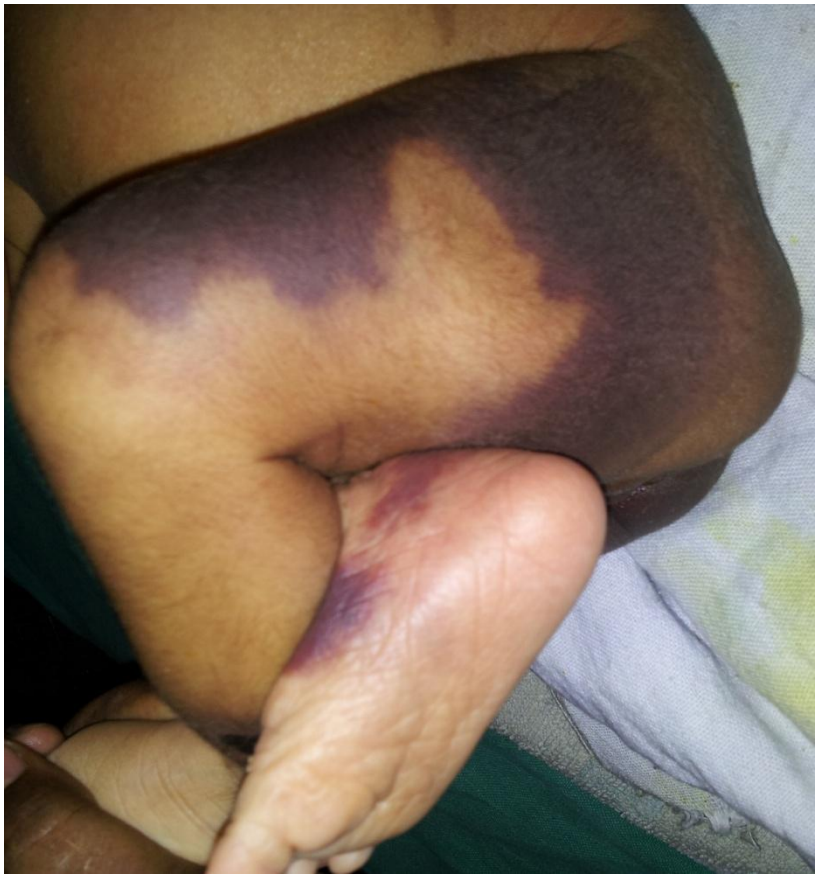


Fig 3.



III. CONCLUSION

Although EG classically occurs in immunocompromised patients, the same entity would arise in otherwise healthy children. As the appearance of ecthyma gangrenosum can be highly variable, EG should always be considered in the differential diagnosis for septic patients presenting with neutropenia or a new skin lesion.

Suspicion for EG warrants prompt collection of blood and tissue cultures, a skin biopsy, and broad-spectrum empiric antibiotic therapy to include anti-pseudomonal coverage. While a skin biopsy showing occlusive vasculopathy with gram negative rods in venule walls is virtually diagnostic of EG, the histopathologic appearance is affected by many variables, including lesion evolution and antibiotic therapy. Since biopsy findings may be non-specific it is imperative to correlate histopathologic appearance of the lesion with tissue and blood cultures as well as the clinical presentation.

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[16] Julianna J. Weiel1, Cathryn Z. Zhang2, Jessica A. Smith1, Wei Wang3, Jason DuPont2 and Fangru Lian1*

AUTHORS

First Author – DR.Vikram Ramalingam, Post-Graduate,Department of Paediatrics,Rajah muttiah medical college and research institute,vikramramalingam@yahoo.co.in

Second Author – DR. Samikannu Ramesh M.D,Dc.h , Proffessor and Head of the department , Department of Paediatrics , Rajah muttiah medical college and research institute

Third Author – DR. Ramanathan D.c.h,D N B , Reader in Department of Pediatrics , Rajah muttiah medical college and research institute .