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A rare case of erythroderma with extensive tinea infection in a tertiary care hospital

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Abstract
Erythroderma, or generalized exfoliative dermatitis, is a disease characterized by erythema and scaling of greater than 90% of the body's surface. The consequential dysmetabolism is potentially life threatening. A detailed history is necessary to identify and treat the underlying cause of this dermatitis. We are presenting a rare case of erythroderma with extensive tinea infection in 50 years old Indian male.

Keywords: erythroderma, dermatitis, KOH mount

Introduction
The term `erythroderma' is usually used to describe any inflammatory skin condition with erythema and scaling which affects more than 90% of the body surface.[1]In this case report, we are presenting a rare case of erythroderma due to extensive Tinea infection in a 50 years old Indian male. Furthermore, we tried to highlight the importance of early diagnosis by history and physical examination and early microbiological investigations (Bacterial culture, fungal microscopy etc.)

Case History
A 50 year old male, carpenter by profession, admitted with complain of excessive itching and exfoliation all over the body including neck and groin past 10 days. The patient was found to be diabetic but normotensive. There was no prior exposure to chemical precipitants of dermatitis and no past history of drug allergy. Family history was negative for similar conditions or skin disorders. The pruritic patches were first noted on the inguinal region and patient topically applied steroid without consultation. It was followed by an erythematous rash on the abdomen which rapidly spread full body including genitals. Physical examination showed extensive non-uniform erythematous scaly patches involving the scalp, face, trunk, arms, legs, palms and soles [Figure 1]. Scalp lesions formed whitish yellow scales with hair loss including extremities and scales in the inguinal region. On the hands, the exfoliative eruption led to severe sloughing of the epidermis [Figure 2]. The topical steroid was stopped immediately.

All necessary investigations were done including skin smear for KOH mount and bacterial swab culture from the erythroderma skin lesion. His haemoglobin was 16.5 g%. Erythrocyte sedimentation rate was 10 mm in the first hour; serum glutamic-oxaloacetic transaminase (SGOT)**,** alkaline phosphatase, serum creatinine, urea, uric acid, calcium, bilirubin and routine urine Examination were normal. Total serum protein was 5.5 g%, with albumin 2.8 g% and globuline 2.7 g%.

Diagnosis
Direct Microscopy (KOH mount)-Plenty of fine hyaline branched septate hyphae was seen on direct microscopy (KOH mount) suggestive of dermatophyte infection (Figure-3). Staphylococcus aureus was also isolated from bacterial culture of the skin smear. The Staphylococcus aureus was found to be MSSA (Methicillin Sensitive Staph aureus).On the basis of microscopy and culture reports clinical diagnosis of Erythroderma secondary to extensive tinea infection was made. He was advised to take thorough bath with soap and to use shampoo for cleaning his hair, along with topical massage of miconazole 2% cream, Fluconazole 150 mg orally daily, Amoxyclav 825 mg twice daily with Antihistaminic orally if needed for itching.

Fig 1

Fig 2

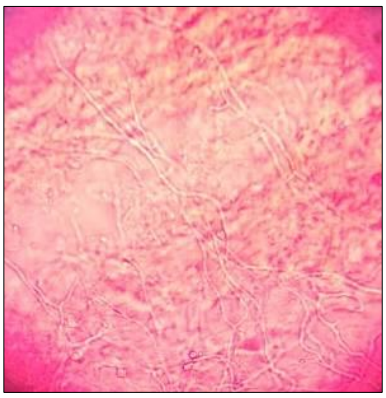

Fig 3

Table 1: Investigation done

Parameter	Result
Haemoglobin	16.5
Total Count	8500
Neutrophil	70
Lymphocyte	20
Eosinophil	08
Basophil	1
Serum creatinine	1.5
Serum uric acid	9.7
Serum HIV/HBsAg/HCV ELISA	Non-Reactive
ESR	20mm

ESR-Erythrocyte Sedimentation Rate

Table 2: Skin Tissues for Microscopy & Culture

Bacteriology	Mycology(Skin smear)
Gram stain: Plenty of polymorphs with gram positive cocci in pair and cluster seen	KOH mount-Plenty of hyaline branched septate hyphae seen suggestive of Dermatophyte infection
Bacterial culture- Methicillin Sensitive Staphylococcus aureus isolated after 24 hrs of aerobic incubation at 37 degree Celsius.	

Discussion & Conclusion

The presence of multiple branched septate hyphae without conidiospores in KOH preparation from the active border confirmed our suspicion that the patient had dermatophytosis. In our case, the immunocompromised patient's self-topical application of steroid after Tinea infection resulted in secondary infection with Staphylococcus aureus. Potentially lethal complications including hypothermia, dehydration and secondary infections could occur to him, and endanger life of the patient if not diagnosed early. Majority of causes of death in patients with erythroderma are pneumonia, septicemia and heart failure.[2]Immunocompromised elderly patients can develop complications such as infection, fluid/electrolyte imbalances and cardiac failure leading to higher risk of mortality.[3] Fungal and Bacterial Cultures from skin lesions are usually negative but in our case, secondary infected wounds gave positive culture reports. Blood cultures were sterile. Early diagnosis and treatment of the patient is very important to prevent mortality due to complications in erythroderma.

Conflict of interest

Nil

References

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