



A CLINICAL STUDY OF 60 CASES OF ERYTHRASMA IN A TRIBAL AREA OF GUJARAT

Dermatology

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ABSTRACT

60 cases of erythrasma were collected at random from the outpatients of Mycology section, Department of Dermatology, for the study. The following conclusions were drawn from this study. More common in females. Mean age of occurrence was 40 - 50 years. Itching and cosmetic disability were the predominant complaints. Maculopapular form in groins was the most common presentation. The disease was chronic with remissions and relapses related to the tropical climate. Obesity, diabetes, hypothyroidism were the common predisposing conditions. Trichomycosis axillaris and keratolysis punctata were the other corynebacterial infections associated with it. Dermatophytosis and candidiasis were the most common fungal infections associated. Melasma, acanthosis nigricans and vitiligo were the most common skin disorders seen in association. Woods lamp examination and Gram stain were useful procedures to confirm the diagnosis of erythrasma

KEYWORDS

Erythrasma, Clinical study, Tribal area.

INTRODUCTION

Erythrasma is a chronic superficial infection of the skin widely prevalent all over the world. The causative agent is an aerobic diptheroid called *Corynebacterium minutissimum*. The disease was first described by Burchardt, a German scientist in 1859, who suggested that the delicate filaments and granules found in the scales were of fungal origin and were the cause of the disease. The term 'erythrasma' was coined in 1862 by Von Baren Sprung, Burchardt's teacher. He named the causative organism as *Microsporum minutissimum*. Most of subsequent workers had no doubt that erythrasma was a separate entity (Kobner 1884; Balzer and Dubrevilh 1883; Unna 1896). The overall incidence of erythrasma is 4%. It is prevalent all over the world. Mild forms of erythrasma of axilla, groins and toe-webs are relatively common in temperate climates; the less common generalised form is predominantly seen in obese subjects particularly in middle aged Negro women. Incidence is higher in closed communities for example the armed forces and institution.

AIMS OF THE STUDY

The aims of the study are

1. To study the age and sex distribution of the patient.
2. To study the clinical profile of erythrasma.
3. To study the predisposing conditions.
4. To study the association of other corynebacterial skin infections and fungal infections.
5. To study the association of other skin disorders.

MATERIAL AND METHODS

60 cases of erythrasma were collected at random from the outpatients of Mycology section, Department of Dermatology. There was no exclusion criteria and with informed consent the cases were chosen for the study with a clinical diagnosis. Subsequently careful history was elicited with particular reference to the following:

- i. Age, Sex of patient
- ii. Symptoms and duration of disease.
- iii. Symptoms related to predisposing conditions.

A detailed systemic and dermatological examination were done. Routine analysis of hemoglobin, urine, blood sugar, serum cholesterol, blood grouping and typing were done in all patients. In appropriate cases thyroid function tests, ELISA for HIV, USG abdomen and pelvis were done. The skin lesions erythrasma were subjected to clinical examination and Wood's lamp visualisation. For Wood's lamp examination the patient was asked to come without having bath. A portable Wood's lamp was used. The patient was undressed in a dark room and the lesions were examined under Wood's lamp. The scales from the lesion were collected by scraping. Using egg albumin the scales were fixed on to the slide. The smears were then stained by Gram method and visualised under light microscopy. In all cases culture was

done. The site of the lesion was thoroughly cleaned and scraping was done. The scales collected were inoculated using a sterile platinum loop into a medium containing Mueller - Hinton Agar enriched with blood. The inoculated plates were incubated at room temperature for 48 hours. After 48 hours the colonies which appeared were subjected to Woods lamp examination and observed for coral red fluorescence.

RESULTS

Of the 60 cases of erythrasma studied 24 were males and 36 were females. The incidence of males was 40% and females was 60%. 72% of cases were in the middle age group of 30 - 60 years. Itching and discoloration of the flexures were the predominant symptoms of erythrasma. 45% of patients had presented with both itching and discoloration. Whereas in 35% the disease was more of a cosmetic complaint with only discoloration and 20% complained of itching alone. In 72% of cases the duration of disease varied between 6 months and 2 years. The longest duration observed was 4 years and shortest was one month. There were remissions and relapses in 23 patients. The relapses occurred with increase in environmental temperature, sweating and maceration. 11 out of 60 patients had similar complaints in family members. The skin lesions of erythrasma patients studied varied in their morphology as well as distribution and extent of the disease. The various types of erythrasma lesions observed were macular, maculopapular, lamellar, intertriginous, follicular, eczematous and disciform types. Of these maculopapular type was the commonest. Satellite macules around larger patches were frequent and characteristic. The lamellar type was seen in patients with generalised erythrasma. Intertriginous forms existed alone or along with dermatophytosis and candidiasis. A case of disciform erythrasma was also observed. Groins were the most common site to be involved followed by axillae. In both these sites the lesions were bilateral and symmetrical. The scales were dry and brown and not erythematous. Other sites involved wereframammary regions, abdominal folds, popliteal and cubital fossa. Dermatophytosis was the most common fungal infection associated. Candidiasis and pityriasis versicolor were next commonly associated. Other corynebacterial infections like keratolysis punctata and Trichomycosis axillaris and pubis were also seen in association with erythrasma. Melasma was the most common association seen in 12 cases (20%). Acanthosis nigricans was next common seen in 11 cases (18%). It was probably due to obesity or underlying hypothyroidism. Vitiligo was associated with erythrasma in 9 cases (15%). Traumatic fissures of feet, ichthyosis, striae distensae were the other associated disorders. In 3 cases idiopathic guttate hypomelanosis and in one case porokeratosis were observed. Among systemic conditions obesity was commonest occurring in 18 cases (30%). Obesity was simple or associated with diabetes mellitus or hypothyroidism. Next common association was diabetes mellitus which was seen in 15 cases (25%). Hypothyroidism occurred in 12 cases (20%). In 60 cases recorded, anemia was seen in 6 cases

leukocytosis was seen in 4 patients. 15 cases showed hyperglycemia which were later confirmed by glucose tolerance test. Hypercholesterolemia was observed in 10 cases. Most common blood group observed was O +ve followed by A +ve. Revealed hypothyroid status in 12 cases. Two cases showed HIV seropositivity by ELISA test. Portable wood's lamp was used. The patient was advised to come without having bath. Coral red fluorescence (Fig 18) was observed in all except one case.

DISCUSSION

The most common age group to be affected were between 40 - 50 years in which one third of cases occurred. 43 cases (75%) occurred in the 30 - 60 years age group. The youngest age group observed was 17 years and oldest was 70 years. This correlates with the literature that incidence of erythrasma increase with age as reported by Gary L Darmstadt et al²⁷ and Laube S. The increased prevalence of metabolic derangements like diabetes mellitus, obesity and hypothyroidism in middle age group might be the reason for the occurrence of erythrasma in them. Also the presence of lipid in apocrine secretion after puberty may also influence the above finding.

In literature erythrasma was reported to be more common in men by Peter K Lee et al., and equal sex incidence was reported by Gary L Darmstadt et al. In this study there were 36 female and 24 male cases showing that the incidence of erythrasma is more in females than in males. This increased incidence may be due to the obesity commonly observed in females more than forty years. RJ Hay and BM Adrians have reported that in temperate climates the erythrasma lesions were symptomless but in tropics, irritation of lesions occur leading to scratching. Similarly in this study 27 patients (45%) had itching and discoloration of flexures as their predominant complaint. It was asymptomatic in 21 cases (35%) who reported for the cosmetic inconvenience. The associated candidal intertrigo and increased sweating and maceration in the flexures due to obesity might be the reason for itching in majority of cases. It is shown in this study that erythrasma is a chronic disease with remissions and relapses. These remissions were associated with the hot and humid tropical climate due to increased sweating and thereby maceration. 11 patients (18%) had family members who were also diagnosed as erythrasma. This indicates that the disease is not significantly contagious. The incidence of erythrasma among family members might be related to the common living conditions and similar predisposing factors in families. The increased frequency of obesity and diabetes in the patients studied concurs with the literature reports of Scheinfeld NS & Haroon TS that erythrasma is commonly associated with both of the conditions. This may be related to the high levels of cutaneous free glucose occurring in diabetes mellitus. The association of hypercholesterolemia in 10 patients (16%) in the study group suggests that possibly an increase in cutaneous lipid may promote the growth of lipophilic *Corynebacterium minutissimum*. 10 female patients (35%) in the study had menstrual irregularities and 2 had polycystic ovarian syndrome on ultrasonogram. Hypothyroidism, obesity, polycystic ovarian syndrome may be the underlying cause in them thereby predisposing them to erythrasma. Anemia was recorded in 6 cases and it indicates that it does not predispose to erythrasma. Leucocytosis was seen in 4 cases. There was no reactive leucocytosis as this bacteria remains mainly in stratum corneum and is usually not invasive. As in general population, in the study group the most common blood group observed was O+ve followed by A+ve.

CONCLUSION

The following conclusions were drawn from this study. More common in females. Mean age of occurrence was 40 - 50 years. Itching and cosmetic disability were the predominant complaints. Maculopapular form in groins was the most common presentation. The disease was chronic with remissions and relapses related to the tropical climate. Obesity, diabetes, hypothyroidism were the common predisposing conditions. Trichomycosis axillaris and keratolysis punctate were the other corynebacterial infections associated with it. Dermatophytosis and candidiasis were the most common fungal infections associated. Melasma, acanthosis nigricans and vitiligo were the most common skin disorders seen in association. Woods lamp examination and Gram stain were useful procedures to confirm the diagnosis of erythrasma.

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