Clinical and Pigmentary Variation of Pityriasis Versicolor in Al-Muthana Government's Patients

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Abstract

Background: Pityriasis versicolor, one of the most common disorders of pigmentation. It is a cutaneous superficial fungal infection characterized by pigmentary changes due to colonization of stratum corneum by dimorphic lipophilic yeast; Malassezia furfur. In general, pityriasis versicolor is thought to cause hypopigmented lesions in individuals with dark skin and hyperpigmented lesions in those with white skin.

Objective: It is a descriptive study to know the pigmentary variation of tinea versicolor in Al-Muthana Government.

Patients and Methods: This study was based on a sample size of 100 patients of pityriasis versicolor who attended the department of Dermatology and Venereology at Al-Samawa general hospital in the periods from January 2009 to March 2010. Diagnosis of tinea versicolor was established by 10% KOH examination of scraping from skin lesion and wood's lamp examination for the golden yellow fluorescence of skin lesions.

Result: From 100 patients with pityriasis versicolor, There were 64 males and 36 females. The age of patients ranged from 5-65 years with a mean age of 24.25 ± 3.22 years. Majority of cases (41%) occurred in the age group of 21-30 years. Sixty sex (66%) of cases had hyperpigmented macular lesions followed by hypopigmented type (23 %), combination of both; hyperpigmentation and hypopigmentation (6 %) and erythematous type (5 %) of lesions. The predominant site of the disease was trunk especially the upper trunk involves in 79 cases, followed by neck in 45 cases, upper limb in 34 cases face in 28 cases and lower limb in 11 cases.

Conclusion: all types of pigmentary variations in pityriasis versicolor are present in Al-Muthana's patients with a predominance of hyperpigmented ones.

التغيرات السريرية والصبغية للنخالية المرقشة في مرضى محافظة المثنى

الخلاصة

النخالية المرقشة او التينيا الملونة من اكثر الامراض الجلدية انتشارا حيث يظهر شكل الجلد المصاب على هيئة بقع مختلفة الالوان تشبهه النخالة. تسبب المرض نوع من الفطريات تدعى (Malassezia furfur). من اعراض النخالية المرقشة التغيرات الصبغية في الجلد التي اما ان تكون بقع غامقة او فاتحة او خليط من كلا الحالتين او احمرارية. هذه الدراسة تمت لمعرفة التغيرات السريرية والصبغية للنخالية المرقشة لدى مرضى محافظة المثنى المراجعين لاستشارية الامراض الجلدية والزهرية في مستشفى السماوة العام في المدة الواقعة بين كانون الثاني 2009 الى اذار2010. تمت الدراسة باخذ مئة مريض بالنخالية المرقشة اعمارهم تتراوح بين 5-65 سنة واكثر المرضى تقع اعمارهم في فئة الاعمار21-30سنة وعددهم 41 مريض. اكثر انواع التغيرات الصبغية لدى المرضى هي البقع الغامقة بنسبة 66 % والبقع الفاتحة 23% والبقع المختلطة 6% والبقع الاحمرارية 5%. اما اكثر اماكن الجسم انتشارا للمرض هو الجذع بنسبة 79%. من هذه الدراسة نستنتج بان كل انواع التغيرات الصبغية تتسببها النخالية المرقشة مع اكثرية البقع الغامقة لدى مرضى محافظة المثنى.

Introduction

Pityriasis versicolor, one of the most common disorders of pigmentation, is known by various names, such as pityriasis versicolor, dermatomycosis perforatia, tinea flava, liver

spots or achromia parasitica[1,2]. It is a cutaneous superficial fungal infection characterized by pigmentary changes due to colonization of stratum corneum by dimorphic lipophilic yeast, Malassezia furfur [2,3] It was first recognized as a fungal disease in 1846 by Eichstedt. In 1853, Robin described the fungus in the scales of tinea versicolor. He considered it to be dermatophyte and named it *Microsporum furfur* [4]. Recently, eleven pathogenic species of Malassezia have been recognized [5,6]. The most common are Malassezia Furfur, Malassezia Pachydermatis, Malassezia sympodalis, malassezia globosa, Malassezia restricta, Malassezia obtuse and Malassezia slooffiae [6,7]. Recently published two studies incriminate two different organisms M. sympodalis and M globosa as the predominant organisms in pityriasis versicolor [8,9].

The color of the skin lesions varies from white to brown. The pathogenesis of these pigmentary variations has not been clearly established. Hypopigmentation has been explained by damage to melanocytes and inhibition of tyrosinase enzyme by dicarboxylic acids produced by Malassezia furfur; by reduction in number, size, and aggregation of melanosomes in melanocytes and surrounding keratinocytes; and by blocking of the ultraviolet light by lipid-like material accumulation in the stratum corneum [2,3]. Hyperpigmentation has been explained by abnormally large melanosomes, a thick stratum corneum and a hyperemic inflammatory response [2,3]. In general, tinea versicolor is thought to cause hypopigmented lesions in individuals with dark skin and hyperpigmented lesions in those with white skin [3].

Patients and Methods

The study compromised 100 patients of pityriasis versicolor, who attended the department of Dermatology and Venereology at Al-Samawa general hospital in the periods from January 2009 to March 2010. It was descriptive study. Diagnosis of tinea versicolor was established by 10% KOH examination of scraping from skin lesion (to look for the presence of hyphae and clusters of spores ′Spaghetti and meatball′ appearance) and wood′s lamp examination for the golden yellow fluorescence of skin lesions. Skin type of our patients was type III-V. The age and sex of the patients, the pigmentary changes, itching, duration, recurrence and site of lesion; all were studied. One patient might have more than one site of involvement. The statistical analysis used in this study was the frequency and percentage.

Result

A total of 100 cases of pityriasis versicolor were included in this study. There were 64 males and 36 females. The age of patients ranged from 5-65 years with a mean age of 24.15 ± 2.12 years. Four cases occurred in children. Majority of cases (41%) occurred in the age group of 21-30 years, followed by age group of 31-40 years in 26% of cases and age group of 11-20 years in 20 % of cases [table 1]. Duration of the disease ranged from one month to 1.5 years with an average of 3.29 ± 2.3 months.

Majority of cases had hyperpigmented macular lesions (66 %), followed by hypopigmented type (23 %), combination of both; hyperpigmentation and hypopigmentation (6 %) and erythematous type (5 %) of lesions. All types male cases more than females except in erythematous type in which females (4%) of cases while males (1%) of

cases [table 2]. Fifty two patients had type IV skin type, 37 patients had type III and 11 patients had type V skin type [table 3]. The predominant site of the disease was trunk especially the upper trunk involves in 79 cases, followed by neck in 45 cases, upper limb in 34 cases face in 28 cases and lower limb in 11 cases [table 4].

Recurrence of lesions was seen in 31% of cases. Pruritus was associated symptom in 49 cases [table 5]. It was present mainly during sweating, but a few cases also complained of itching at all time. It occurred more frequently in erythematous type variety (4 out of 5 cases), followed by hyperpigmented variety and less frequently in hypopigmented cases [table 5].

Twenty one percent of our cases had associated diseases include diabetes mellitus in 11 patients, hypertension in 5 cases, urticaria in cases, polycystic ovary in 2 cases and one case had renal stone. There were 2 cases of pregnant females and one cases had disease treated with corticosteroid.

Table 1 Number of cases and sex distribution according to age group.

Age group (years)	No. of cases	Male	Female
0-10	4	3	1
11-20	20	11	9
21-30	41	24	17
31-40	26	20	6
41-50	5	3	2
51-60	3	2	1
>60	1	1	0
Total	**100**	**64**	**36**

Table 2 Distribution of various pigmentary types.

Type	No. of cases	Male	Female
Hyperpigmented	66	43	23
Hypopigmented	23	15	8
Both	6	6	0
Erythematous	5	1	4
Total	**100**	**64**	**36**

Table 3 Distribution of pityriasis versicolor types according to Fitzpatric's skin type.

Skin type	Hyperpig. type	Hypopig. type	Both types	Erythematous type	Total
Type III	24	9	1	3	**37**
Type IV	35	12	3	2	**52**
Type V	5	4	2	0	**11**
Total	**66**	**23**	**6**	**5**	**100**

Table 4 Sites of involvement in pityriasis versicolor.

Site	No. of cases	Male	Female
Face	28	18	10
Neck	45	26	19
Trunk	79	52	27
Upper limb	34	20	14
Lower limb	11	0	11

Table 5 Clinical profile of pityriasis versicolor with respect to its pigmentary types.

Type	Itching	First episode	Recurrence Episode
Hyperpigmented	36	48	18
Hypopigmented	8	14	9
Both	1	4	2
Erythematous	4	3	2
Total	**49**	**69**	**31**

Discussion

Pityriasis versicolor occurs worldwide and most prevalent in tropical areas where high temperature and humidity are present; it reported to be as high as 50% in western Samoa and as low as 1.1% in the colder temperature [10]. In United States the prevalence of this condition is 2-8% of population [11]. It is caused by a dimorphic lipophilic fungus. The yeast phase of this organism has two morphologically distinct forms, an ovoid for *Pityrosporum ovale* and a spherical form Pityrosporum *orbiculare*. P. ovale resides more in the scalp and P. orbiculare occur more often on the trunk [12]. Pityriasis versicolor occurs when the yeast converts to its mycelial form due to certain predisposing factors [13,14]. These factors can be classified as exogenous or endogenous. The exogenous factors include heat and moisture (more prevalent in tropics), occlusion and altered PH range. On the other hand, endogenous factors incriminated are seborrheic dermatitis, Cushing's syndrome, immunosup-pressive treatment, malnutrition, hyperhidrosis and rarely hereditary factors [15,16].

Pityriasis versicolor occurs most commonly in adolescent and young adult, in whom sebum production is higher than in other age groups and seems to correlate with increased colonization by *pityrosporum* with increasing age (5-15% in 0-10 years children compared with 56-90% for 11-20 years old individuals) [17]. In Our study, four cases occurred in children while majority of cases (41 cases) occurred in the age group of 12-30 years followed by 31-40 years (26 cases) and 11-20 years (20 cases). In early cases, the lesions may seem to be perifollicular in origin, then it become multiple macules or patches with skip regions of normal skin in between. The macules and patches as implied by the name versicolor may be hyperpigmented, hypopigmented, leucodermal, erythematous or dark brown as noted in our series [17,18]. The color may vary according to patient's normal pigmentation, exposure of the area to sunlight and to the severity of the disease. In the beginning, it is stated that the lesions are often red to light brown, the majority then become hyperpigmented [19]. Most of our cases had hyperpigmented lesions (66%). Most commonly, the sites of predilection of pityriasis versicolor macules or patches are the trunk in the sternal region and sides of the chest; the abdomen; back; pubis; neck and intertriginous [2,3]. Less frequently the face was involved by lesions of tinea versicolor as noted by others [20]. The trunk was the most frequent site involved in our study. Previously tinea versicolor thought to be a postpubertal disease. Evidence has shown that tinea versicolor is not uncommon in children and the lesions of the face were much more common, nearly 32% of children with tinea versicolor had face lesion of tinea versicolor[17]. In our study, four cases occurred in the children; three of them, had face involvement.

One study reported that there was a 2:1 ratio of women to men Patients. The age range was from 10-65 years, most patients were between 20-45 years of age [21]. Other series reported that sexes are about equally affected in adult and is usually established by early twenties [14,15]. Majority of our cases occurred in the age group of 21-30 years with male predominance.

In conclusion; from our study, we would say that all types of pigmentary variations in pityriasis versicolor are present in Samawa city patients with a predominance of hyperpigmented ones. Moreover, both types of pigmentary anomalies can occur simultaneously in any individual case.

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