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Original Article

Clinical profile of pityriasis versicolor in a referral hospital of West Bengal

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Abstract

Introduction Pityriasis versicolor (PV) is a common superficial mycosis in the tropical countries. It is caused by several species of a lipophilic dimorphic fungus, *Malassezia*. Depending on climatic condition, its clinical profile is expected to vary from one region to other.

Objective To determine clinical profile and some important associations in this disease in a referral hospital of Northern part of West Bengal.

Patients and methods 160 consecutive microscopically confirmed cases of pityriasis versicolor attending the OPD were taken up for detailed history and clinical examination.

Results PV was found to be the commonest in the age group 13-24 years. 35.6% were females. In 51.9% cases PV was the presenting complaint. In 53.8% the disease was asymptomatic. The commonest clinical presentation was hypopigmented macules and the commonest site of involvement was face in children and females above the age of 12 years and chest in males above 12 years. Involvement of lower limb was significantly commoner (p<0.05) in children than their older counterparts. Seborrheic dermatitis was found in 31.9% of our cases.

Conclusion Environmental factors played more important role in our series than other known predisposing factors. Relationship between PV and seborrheic dermatitis is still an enigma which needs further investigation. Lower limb is a common site of affection among children.

Key words
Pityriasis versicolor, clinical profile.

Introduction

Pityriasis versicolor (PV) is a common skin complaint in which flaky discoloured patches appear mainly on the chest, back and proximal extremities. The term 'pityriasis' is used to describe skin conditions in which the scales appear similar to bran. The multiple colours arising in the disorder give rise to the second part of the name, 'versicolor'. It is sometimes called 'tinea versicolor'. Other synonyms are dermatomycosis furfuracia, chromophytosis, tinea flava and liver spot. PV is more common in hot, humid climate of tropics or in those who sweat heavily, so it may recur each summer. The etiologic agent *Malassezia furfur* is a dimorphic, lipophilic fungus which is a common endogenous saprophyte of normal skin. Under appropriate conditions, it converts from the saprophytic yeast to the predominantly parasitic mycelial morphology associated with clinical disease.[1] Factors responsible for this transition include warm, humid environment, heredity, Cushing's disease, immunosuppression, and a malnourished state.[2] Common presentation of this superficial mycosis is scaly hypo- or

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hyperpigmented macules at the sites of predilection, often with perifollicular lesions. Clinically suspected cased can be confirmed by microscopic study of KOH preparation of scales scraped from the surface of skin lesion. Microscopy is reported as positive if hyphae and yeast cells are seen; they resemble 'spaghetti and meatballs'. In contrast to dermatophyte infections, a negative microscopic examination virtually excludes the diagnosis.[3] Other clinical conditions attributed to *Malassezia* spp. are seborrhoeic dermatitis, pityrosporum folliculitis, dacryocystitis, confluent and reticulate papillomatosis, sebopsoriasis, onychomycosis and fungaemia. Due to widely varying environmental factors, epidemiological and clinical profile of PV is expected to vary from one geographical location to other. Hence, we undertook this study to find out clinical profile, common risk factors and association with seborrheic dermatitis, another common disorder putatively caused by the same fungus, of PV in patients of northern parts of West Bengal.

Patients and methods

New cases attending the skin OPD of a referral hospital of West Bengal in the month of July were examined for presence of PV anywhere in the body. Scraping was taken from skin lesions with scalpel blade from clinically suspected cases, mounted on glass slide, dissolved in 10% KOH solution and examined under microscope for presence of yeast or hyphae. Detailed history taking and thorough clinical examination were undertaken according to a pre-formed format in 160 consecutive microscopically confirmed cases. We noted age, sex, duration of illness, risk factors like nature of job, contact history, associated systemic diseases, history of spontaneous winter remission and recurrence, symptoms, color and morphology of lesions, distribution of lesions in different body parts, presence of obvious scaling and presence of seborrheic dermatitis. The data thus collected was compiled and analyzed using MS Excel.

Results

Of the 160 study subjects, the youngest was of 5 months, while the oldest was 73 years of age. Mean age was 23.039 years (**Table 1**).

Out of 160, 52 cases were involved in manual labor while rest led a sedentary life style. Students, children, housewives with minimal outdoor activity and office workers were considered to have sedentary living. Nutritional status was good in 132 patients (82.5%).

Duration of illness at the time of presentation was less than 1 month in 19 cases, 1 to 12 months in 95 cases and 1 to 20 years in the remaining 46 cases. The range was 7 days to 20 years.

In 83 (51.9%) cases, PV was the presenting complaint. In other cases the patient came to OPD with some other dermatological problem and PV was noted by attending dermatologist.

History of recurrence could be elicited in 38 cases. Of them, 25 cases had recurrence for last 2 to 5 years while 13 had recurrence for more than 5 years (highest being 20 years).

History of complete or partial spontaneous remission during winter was given by 48 (30%) study subjects. 43 (26.9%) cases had the same disease among family members and other close associates.

In majority of cases (53.8%, n=86), PV produced no symptom at all. Itching was complained by 56 cases. Burning sensation was

Table 1 The age and sex wise break up of the study population (n=160).

Age	*Male*	*Female*	*Total*
0-12 years	12	14	26
13-24 years	52	26	78
25-36 years	25	12	37
>36 years	14	5	19

Table 2 Distribution of lesions in different body parts in children, male and female (teenage and above).

	0-12 years (n=26)	Male >12 years (n=91)	Female >12 years (n=43)
Scalp	0	1 (1.09%)	1 (2.32%)
Face	18 (69.23%)	51 (56.04%)	31 (72.09%)
Neck	5 (19.23%)	66 (72.53%)	17 (39.53%)
Chest	8 (30.77%)	83 (91.21%)	26 (60.46%)
Abdomen	8 (30.77%)	42 (46.15%)	12 (27.91)
Upper back	7 (26.92%)	69 (75.82%)	25 (58.14%)
Lower back	4 (15.38%)	34 (37.36%)	15 (34.88%)
Arms	4 (15.38%)	55 (60.44%)	27 (62.79%)
Forearms	5 (19.23%)	34 (37.36%)	16 (37.21%)
Hands	2 (7.69%)	11 (12.09%)	0
Axillae	2 (7.69%)	14 (15.38%)	4 (9.30%)
Groin	0	4 (4.39%)	1 (2.32%)
Genitalia	4 (15.38%)	2 (2.19%)	0
Buttocks	8 (30.77%)	13 (14.28%)	7 (16.28%)
Thighs	10 (38.46%)	15 (16.48%)	6 (13.95%)
Legs	9 (34.61%)	4 (4.39%)	5 (11.63%)
Feet	2 (7.69%)	2 (2.19%)	0

present in 14 cases, while 4 complained of both itching and burning.

History of accompanying systemic illness was obtained in 7 cases. Diabetes mellitus was present in 4, hypertension in 2 while one patient was on systemic steroids due to type 2 reaction in Hansen's disease.

Clinical examination revealed that 146 cases had macular lesions, 21 had scaly lesions significantly elevated from surrounding skin begging to be described as papules. 48 cases (30%) had perifollicular lesions either alone or in combination of larger, non-follicular macules.

Regarding color of the lesions, 123 (76.9%) cases had hypopigmented, 8 (5%) had only hyperpigmented, 4 (2.5%) had erythematous skin lesions while 22 (13.8%) combination of both hypo- and hyperpigmented lesions and remaining 3 (1.9%) cases had combination of erythematous and hypopigmented lesions. Obvious scaling (visible as such or after scratching lightly with glass slide) was present in 146 (91.3%) cases. In remaining 24 cases, skin scraping with scalpel blade was taken on clinical suspicion and found to be positive microscopically.

Ten patients between 0-12 years of age had lesions of PV somewhere in their lower limb (thighs, legs or feet), while 22 of patients above the age of 12 had the same. Hence, lower limb was involved more frequently in pediatric population and this difference was statistically significant (p=0.01).

In patients belonging to teenage and above, face was somewhat more frequently involved in females (p=0.07). On the other hand, in this age group, male had lesions on chest more often than

their female counterparts (p<0.0001). Same was true for abdomen (p< 0.05).

Seborrheic dermatitis was present in some part of body in 51 (31.9%) cases. Of them, 41 cases had involvement of scalp only (seborrhea capitis).

Discussion

In the present study, PV was found to be commonest in teenagers and young adults (age group 13-24). This was an expected outcome considering high level of physical activity, activity of sebaceous glands in this age and lipophilicity of the causative fungus, *Malassezia* spp. The same predilection for age was found in a large African study.[4]

Only 32.5% of our study cases were involved in manual labor. Hence, it may be assumed that hot and humid environment of our country is more important predisposing factor than nature of job. This also explains spontaneous remission in winter months in 30% cases. Systemic causes played a probable role in pathogenesis in only 5 (3.1%) of our cases, diabetes in four and systemic steroid in one.

In 48.5% (n=77) cases, patients did not complain about existing PV lesions though they came to attend dermatology OPD. Largely asymptomatic nature of this disease and lack of attention to cosmetic problems among patients of poor socioeconomic background (who form bulk of our patients) seem to explain this.

Male to female ratio was almost equal (6:7) in 0-12 age group. But in older patients, males far outnumbered females (91 versus 43). Similar male preponderance was noted in some early works.[5] Some other studies reported that the infection was higher in females.[6] We, however, believe that our finding in this regard may not reflect true sex-wise prevalence of the disease in the population. Most of our patients came from a conservative community and moreover, were poor and illiterate. Since PV is asymptomatic in most cases, the females often do not report to doctors especially when lesions occur on covered parts of body. They do not seem to pay heed to cosmetic problem unless it occurs on face. This may explain to some extent our observation in the study that face was more commonly involved in females while males had more lesions chest and abdomen.

Common sites of involvement of this disease were face, chest, abdomen and buttock in children, chest, upper back and neck in male above the age of 12 years; face, arms and chest in female above 12 years, in order of decreasing frequency. In an Indian study, it was found to be distributed predominantly over the neck (71.6%), chest (58.3%) and back (70%).[7]

Other studies on pediatric population confirm that face is the most favored site of PV in children.[8,9] In the present study, we had an interesting observation that in children below 12 years, lower limbs and buttocks were much commoner site of involvement as compared to their older counterparts (p<0.05).

We observed all three colors of lesions, hypopigmented, hyperpigmented and erythematous, in the present series. Some authors classified the disease into three types: PV alba, PV nigra and PV rubra depending on color of lesions.[10] However, hypopigmented lesions were by far the commonest. This is not unexpected, because, in patients with dark skin, pityriasis versicolor is thought to have a tendency to be hypopigmented.[11] Small perifollicular lesions were observed in 30% of our case, either alone or in combination with

larger nonfollicular macules. This may serve as an important clinical clue in the diagnosis of PV. Papular lesions are not uncommon in PV, being present in 13.1% cases of our series.

Seborrheic dermatitis was found in 31.9% of our study series. No reliable data on prevalence of this disease among general population of India is available. It affects 3 to 5 percent of the population in United States.[12] In patients with pityriasis versicolor, seborrheic dermatitis has been found in a higher percentage than expected.[13] However, our figure is on much higher side. The habit of regular use of oil on hair by people in this part of our country may be the cause of high prevalence of seborrhea capitis. Another interesting observation is that only 2 patients in the present series had lesions of PV on scalp while seborrhea capitis was so common. It may, therefore, be assumed that different species of *Malassezia* play pathogenic role in development of PV and seborrhea capitis.

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