Clinical patterns of Pityriasis versicolor among Sri Lankan children

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Abstract

Objective: To describe the patterns of Pityriasis versicolor among Sri Lankan children in terms of age, sex, areas affected in the body.

Method: The study was carried out at the skin clinic at Lady Ridgeway hospital in children presenting with Pityriasis versicolor infection using an interview-based questionnaire to collect data about age, sex, areas affected in the body and factors associated with the infection.

Results: The mean age of presentation is 5.5 years. There is no significant difference in the sex distribution of the condition. When the area is considered 93.6% of them have had one or more patches on the face. Hyperhidrosis showed a significant association. Though sharing of bed linen and a contact history of parents were found to be common among the children with pityriasis versicolor, no case control study was done.

Introduction

Pityriasis versicolor is a common skin condition caused by the invasion of the outer layer of the skin by the mycelial form of the dimorphic lypophilic yeasts of the genus Malassezia. The yeast which is part of the typical skin flora is found in the region of the body such as the head, trunk, and upper back. In the dormant yeast phase cell are circular, oval or cylindrical. They were formally known as Pityriasforum ovale and orbiculare. Malassezia globosa, M. symphodialis and M. furfur seems to be the most common species and the most probable causes of pityriasis versicolor. Pityriasis versicolor is the one of the most common pigmentary disorder world wide. It is frequently seen in tropical regions with prevalence as high as 40%. Infection can arise at any age, with most cases occurring during adolescence and young adulthood. Pityriasis versicolor is neither contagious nor due to poor hygiene. Hormonal changes or increases in sebum secretion might be relevant. Malassezia species are present in 90-100% of people as typical flora. However these species are unevenly distributed on the healthy human body. In both their normal and pathological forms, these pathogens reside within the hair follicles where free fatty acids and triglicerides from sebum and keratinized epidermis might be altered in some way to provide a desirable environment to primary or recurrent infection. Malassezia species are somewhat opportunistic organisms although the factors enhancing patients' susceptibility are not fully defined. The associated factors in general are the state of host immunity, endogenous and exogenous corticosteroids and climatic factors involving the humidity.

Methods

In this descriptive cross sectional survey, the background data of the children with P. versicolor was collected using a pretested questionnaire by 2 trained medical officers. Skin scrapings of the suspected lesions were collected with the consent of the guardians and were dissolved in 10% KoH on a slide, seen under the light microscope to identify the hyphae to confirm the diagnosis. The following data were recorded: age, sex, main city of origin, greasy skin, hyperhidrosis, immunodeficiency, malnutrition, systemic steroids treatment, contact history at home, sharing of bed linen and area of the body affected, educational level of the parents, number of children, family income etc. The data was analyzed using the SPSS-1 statistical soft ware system.

Results

There were 235 children in the study sample of whom 130 were males. Age and sex distribution of children is shown below in table 1.

Table 1. Age and sex distribution

Age	*Male*	*Female*	*Total*
0-5 yr	61	64	125
%	48.8%	51.2%	100%
6-12	69	41	110
%	62.7%	37.3%	100%
Total	130	105	235
%	55.3%	44.7%	100%

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125 children were under the age of 5 years. 86.5% of the children (199) are from Colombo district. Hyperhidrosis (increased sweating) is found to be a significant association, Pearson chi square p=0.006. Table 2.

Table 2. Hyperhidrosis and P. versicolor

Age	*No*	*Yes*	*Total*
0-5	68	57	125
%	54.4%	45.6%	100%
6-12	79	31	110
%	71.8%	28.2%	100%
Total	147	88	235
%	62.6%	37.4%	100%

Sharing of bedding was common in 89% of the total sample. Table 3.

Table 3. Sharing of bed linen and P. versicolor

Sharing present	209	89%
Sharing absent	26	11%
Total	235	100%

Educational level of the parents are shown in table 4.

Table 4. Educational level of the parents

Education	*Mother*	*Father*
No education	5	6
%	2.1%	2.6%
1-5 grade	12	9
%	5.1%	3.9%
6-10 grade	165	170
%	70.5%	73.0%
>O/L	52	48
%	22.2%	20.6%
Total	234	233
%	100%	100%

Among the mothers 72.4%have studied up to Ordinary Level or more. Among the fathers, 72.5% have studied up to Ordinary Level or more. Mothers[7] educational level is double checked by a random assessment of 50 mothers at Out Patient Department, at Lady Ridgeway Hospital, which confirmed the above value.

Parents of the patient sample had more P. versicolor than the other siblings. Table 5.

Table 5. Contact at home and P. versicolor

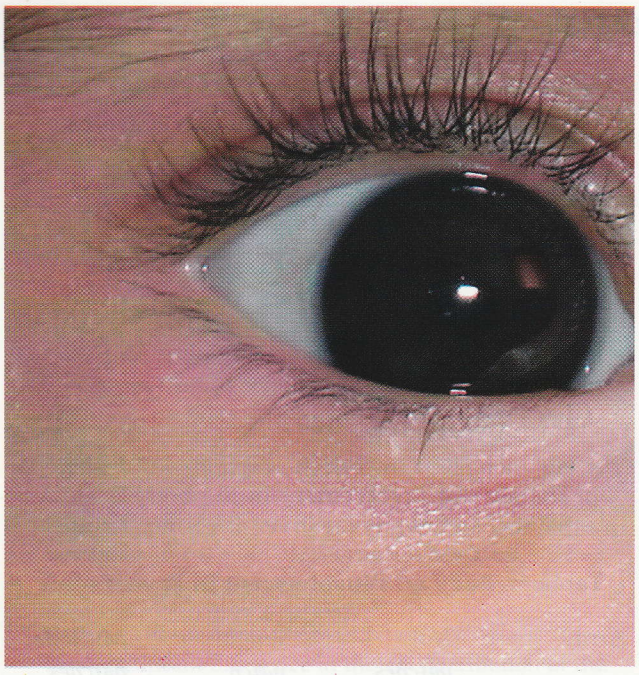
Contact h/y	*Parents*	*Siblings*
Present	133	41
%	56.6%	17.4%
Absent	102	194
%	43.4%	82.6%
Total	235	235
	100%	100%

The area of involvement in the body is shown in table 6.

Table 6. Body area involvement in P. versicolor

Area	*No patches*	*Single patch*	*Multiple patches*
Face	15	8	212
%	6.4%	3.4%	90.2%
Neck	179	1	54
%	76.2%	0.4%	23%
Up arm	153	3	79
%	65.1%	2.6%	33.6%
Lo arm	188	2	45
%	80%	0.9%	19.1%
Chest	144	1	85
%	62.6%	0.4%	37.0 %
Back	146	1	88
%	62.1%	0.4%	37.4%
Legs	184	1	50
%	78.3%	0.4%	21.3%

Patient with multiple patches on the trunk.



Patch on the lower eye lid in a neonate.

Discussion

In this study the mean age at which the condition affects the children is around 5.5 years. Though the mean age is 5.5, the lesions have been observed in neonates, as well as in infants. The taxonomic classification of Malassezia yeasts until today has yielded the description of 6 different species based upon molecular, biological, morphological and biochemical parameters namely M. furfur, M. sympodialis, M. globosa, M. obtusa, M. restricta, M. slooffiae. In a Spanish study M. globosa was isolated in 93 out of 96 patients and the only species in 58 cases and was associated with sympodialis in 28 and slooffiae in seven.

The results of the studies on the effect of Malassezia yeasts on cytokine production by human keratinocytes indicate that by stimulating cytokine production malassezia produces different clinical and pathological manifestations like seborrheic dermatitis, folliculitis and atopic dermatitis.

In this study there is a slight preponderance of males (55.7%) is noticed whereas in a French population of children there was a slight female preponderance.

Parents of the patients had more P. versicolor than the other sibling's. This is probably due to the frequent handling of the clothing's, bed linens and the children themselves by their parents in day to day life.

Only 12.4% of the children admitted that they have had the lesions in the past. This shows the high rate of loss to follow up after the first one month local application of the antifungal cream which alleviates the distressing symptoms and achromia.

Hyperhidrosis was found to be associated with the condition. 93.6% of the children in this study showed either single or multiple patches on their faces irrespective of involvement of other areas. This confirms the results of a retrospective study in French children aged 5 months to 14 years where facial lesions were found most frequently. This preferential facial localization and predominant achromic and hypochromic aspects are characteristics of P. versicolor which is also reported in other studies. Another interesting observation is that in neonates and infants lesions were also found on the eye lids. (See photograph). These lesions can be mistaken for patches of infantile seborrhoeic dermatitis.

There is no significant association of the condition with the hereditary predisposition. 98.2% of the population failed to show any clinical evidence of immunodeficiency, and 98.8% were not on any long-term steroid treatment. 99.6% of the children did not show any evidence of significant malnutrition.

The factors like oil application, tight clothing, and greasy skin are not accounted for in this discussion owing to its subjective variations, difficulties in statistical analysis and to the fact that it may not reflect the true situation in life.

Conclusions and recommendations

P.versicolor is an important skin condition encountered in the skin clinic of Lady Ridgeway Hospital in children. The abundance of children developed their first lesion on the face, and most of them had multiple lesions on presentation. Hyperhydrosis is a significant association. The significance of shared bed linen and the prescence of lesios in the parents are difficult to evaluate from this study. Pityriasis versicolor is a treatable condition and it should be properly treated up to the recommended period of time. Treatment should be individualized.

High rate of loss in follow up may be due to good response to the topical treatment.

Since this is the first reported study in Sri Lanka, a case control study to identify the associated factors will be useful.

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