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Clinical Characters of Patients with Different Types of Pityriasis Versicolor

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Abstract

Tinea versicolor, or pityriasis versicolor, is a common, superficial fungal infection of the skin that usually causes minimal discomfort. Finely scaled, hyperpigmented or hypopigmented macules are clinical characteristics of pityriasis versicolor. The researchers at Benha University Hospital wanted to learn more about the sorts of PV patients that visit their outpatient clinics. Two hundred and twenty-six Pityariasis versicolor patients who visited the Dermatology and Andrology Outpatient Clinics at Benha University Hospital participated in this cross-sectional research. Important variations in clinical manifestation were observed. Lesions that were both hypopigmented and hyperpigmented were most common on the back and chest. We discovered that skin type III was substantially linked to recurrent PV, hyperpigmented lesions, and chest discomfort. Varicella recurrence, hypopigmented lesion prevalence, neck and nape discomfort, and hyperhidrosis were all substantially linked to skin type IV. Age, male gender, and skin type III, as well as shoulder and chest involvement, were strongly related with recurrence, while the face was significantly connected with original lesions. Moreover, no age or gender variations were seen in relation to skin type in patients with PV condition.

Key words: Egyptian patients, Clinical characters, Pityriasis versicolor

1. Introduction

Malassezia species are responsible for pityriasis versicolor (PV). One of the most frequent types of superficial fungal infections, especially in tropical regions, is athlete's foot. The presence of Malassezia in healthy skin flora makes PV harder to treat and increases the risk of recurrence or recurring infections. [1].

The parts of the body with the most sebaceous glands are the chest and back, and pityriasis versicolor may make the afflicted skin look lighter, darker, or redder than the surrounding unaffected skin. The upper arms, neck, and face are not immune to pityriasis versicolor's spread. In the summer, lighter patches of pityriasis versicolor stand out because they fail to tan while the skin around them darkens. It's not uncommon to also see scales, or flakes of skin. Although pityriasis versicolor often has no noticeable symptoms, some people may experience itching [2].

Varied skin disorders linked to Malassezia have diverse species distributions on the skin and may have different global distributions. In Europe, M. sympodialis is thought to be the most common species, but in Asia M. restricta and M. globosa are more common. [3]

2. Patients and Methods

This was a cross sectional study. The study included 226 patients with Pityriasis versicolor attending the Dermatology outpatient clinic at Benha University Hospital, Benha, Egypt.

Participants gave their informed consent before enrollment in the study and the study was approved by the Research Ethics Committee in Faculty of Medicine, Benha University.

All patients included in the study had clinically the typical pityriasis versicolor lesions. Patients with Local inflammatory or infectious diseases at the site of lesion or who were using systemic or topical therapy for PV during the month preceding the study were excluded.

All patients were subjected to a complete clinical examination to evaluate the clinical type and the extent of the disease and a complete wood's light examination to confirm diagnosis through showing yellow fluorescence of the lesions, also to determine the site and extent of the lesion.

Skin scrapings were taken from most scaly site by a sterile blunt scalpel,collected in a Sterile filter paper after use of cotton soaked with alcohol 70%.

20% KOH preparation revealed the characteristic spaggetti and meatball hyphae and spores of Malassezia Culture applied on Sabouraud Dextrose agar and Modified Dixon's **(Malassezia selective culture medium[4]** at 32°c For 2weeks.

Then colonies species identification by morphological, biochemical tests, growth in presence of different tween concentration(20,40,60,80)as unique lipid supplementation

Data management and Statistical Analysis:

Data entry, processing and statistical analysis was carried out using Statistical package for social sciences (IBM-SPSS), version 24 (May 2016); IBM- Chicago, USA will be used for statistical data analysis. Tests of significance (Kruskal-Wallis, Wilcoxon's, Chi square, logistic regression analysis, and Spearman's correlation) were used. Data were presented and suitable analysis was done according to the type of data (parametric and non-parametric) obtained for each variable. P-values less than 0.05 (5%) was considered to be statistically significant.

P- value: level of significance

- $P > 0.05$: Non-significant (NS).
- $P < 0.05$: Significant (S).
- $P < 0.01$: Highly significant (HS).

Mean, Standard deviation (± SD) and range for parametric numerical data, while Median and Inter-

quartile range (IQR) for non-parametric numerical data. Frequency and percentage of non-numerical data. Kruskal-Wallis test was used to assess the statistical significance of the difference of a non-parametric variable between more than two study groups.

3. Results

Table (1) Comparison of age, gender according to skin type with PV affection

			Skin type				p
			III N=114		IV N=112		
Age (years)		Median, range	17	0.5-55	13.5	0.3-53	0.366
Gender	Males	N%،	74	64.9%	70	62.5%	0.706
	Females	N%،	40	35.1%	42	37.5%	

No significant differences were found regarding age and gender according to skin type with PV affection.

Table (2) Comparison of clinical features according to skin type with PV affection

			Skin type				P
			III N=114		IV N=112		
		Median, range					
Recurrence	Primary	N,%	32	28.1%	58	51.8%	<0.001
	Recurrence	N,%	82	71.9%	54	48.2%	
Type	Hypopigmented	N,%	26	22.8%	62	55.4%	<0.001
	Hyperpigmented	N,%	88	77.2%	58	51.8%	<0.001
Site	Face	N,%	12	10.5%	6	5.4%	0.151
	Neck	N,%	50	43.9%	44	39.3%	0.485
	Back	N,%	18	15.8%	48	42.9%	<0.001
	Nape	N,%	6	5.3%	20	17.9%	0.003
	Shoulders	N,%	8	7.0%	6	5.4%	0.605
	Chest	N,%	60	52.6%	28	25.0%	<0.001
Associated hyperhidrosis		N,%	40	35.1%	60	53.6%	0.005

Recurrent PV, Hyperpigmented lesions, chest affection, were significantly associated with skin type III. While Recurrent PV, Hypopigmented lesions, neck, nape affection, associated hyperhidrosis were significantly associated with skin type IV.

Table (3) Comparison of age, gender, skin type according to pigmentation of PV lesions

			Pigmentation						P
			Hypo N=80		Hyper N=138		Hypo+Hyper N=8		
Age (years)		Median, range	10	0.3-55	17	0.5-53	18	18-18	0.003
Gender	Males	N,%	23	57.5%	45	65.2%	4	100%	0.041
	Females	N,%	17	42.5%	24	34.8%	0	0%	
Skin type	III	N,%	13	32.5%	44	63.8%	0	0%	<0.001
	IV	N,%	27	67.5%	25	36.2%	4	100%	

Hypopigmented lesions were significantly associated with younger age, male gender and skin type IV.

Table (4) Comparison of clinical features according to pigmentation of PV lesions

			Pigmentation						P
			Hypo N=80		Hyper N=138		Hypo+Hyper N=8		
		Median, range							0.087
Recurrence	Primary	N,%	34	42.5%	48	34.8%	8	100%	0.001
	Recurrence	N,%	46	57.5%	90	65.2%	0	0%	
Site	Face	N,%	6	7.5%	12	8.7%	0	0%	0.665
	Neck	N,%	42	52.5%	52	37.7%	0	0%	0.004
	Back	N,%	18	22.5%	40	29%	8	100%	<0.001
	Nape	N,%	12	15%	14	10.1%	0	0%	0.446
	Shoulders	N,%	6	7.5%	8	5.8%	0	0%	0.866
	Chest	N,%	20	25%	60	43.5%	8	100%	<0.001
Associated hyperhidrosis		N,%	30	37.5%	62	44.9%	8	100%	0.002

Hyperpigmented lesions was significantly associated with recurrence, neck affection and associated hyperhidrosis. Back and chest were significantly associated with mixed hypo and hyperpigmented lesions.

Table (5) Comparison of age, gender according to recurrence of PV infection

			Primary		**Recurrent**		**P**
			N=108		N=136		
Age (years)		Median, range	10	0.3-27	25	1-55	<0.001
Gender	Males	N,%	42	38.9%	102	75.0%	<0.001
	Females	N,%	48	44.4%	34	25.0%	
Skin type	III	N,%	32	29.6%	82	60.3%	<0.001
	IV	N,%	58	53.7%	54	39.7%	

Recurrence was significantly associated with older age, male gender and skin type III.

Table (6) Comparison of clinical features according to recurrence of PV infection

			Primary		**Recurrent**		**P**
			N=108		N=136		
		Median, range					
Type	Hypopigmented	N,%	42	38.9%	46	33.8%	0.070
	Hyperpigmented	N,%	56	51.9%	90	66.2%	0.543
Site	Face	N,%	18	16.7%	0	0%	<0.001
	Neck	N,%	42	38.9%	52	38.2%	0.208
	Back	N,%	22	20.4%	44	32.4%	0.201
	Nape	N,%	14	13.0%	12	8.8%	0.120
	Shoulders	N,%	0	0.0%	14	10.3%	0.002
	Chest	N,%	22	20.4%	66	48.5%	<0.001
Associated hyperhidrosis		N,%	46	42.6%	54	39.7%	0.091

Recurrence was significantly associated with shoulders and chest affection, while face was significantly associated with primary lesions.

4. Discussion

Malassezia species are responsible for causing pityriasis versicolor (PV), often known as tinea versicolor. One of the most frequent types of superficial fungal infections, especially in tropical regions, is athlete's foot. Malassezia is part of the natural skin flora, making it hard to treat PV and increasing the risk of relapse or repeated infections. [1]

In people and animals alike, Malassezia sp. is a common resident flora that may lead to PV.

In addition to worsening the state of immunocompromised newborns and young children, Malassezia sp., a worldwide resident flora on the skin surfaces of people and animals, may cause pyoderma gangrenosum (PG), Malassezia folliculitis (MF), and seborrheic dermatitis (SD). The genus Malassezia has 18 different species [5].

Consequently, the purpose of this research is to investigate the clinical features of individuals with various PV subtypes.

Recurrent tetanus, hyperpigmentation, and chest ailment were all strongly linked to skin type III in the present investigation. Type IV skin was also linked to hyperhidrosis, recurring TV, hypopigmented lesions, neck, and nape discomfort.

Douzan et al. [6] found the opposite, finding no association between the pigmentary variants of pityriasis versicolor with the skin type, sex, age, place, or symptomatology of our patients.

Younger age, male gender, poor reaction, and skin type IV were strongly linked with hypopigmented lesions. However, hyperpigmented lesions were linked to higher odds of recurrence, neck discomfort, a positive response, and hyperhidrosis in general.

According to our findings, Most species were identified from hypopigmented lesions of PV patients aged 20–29, as reported by Elshabrawy et al. [7].

As the recurrence rate of pityriasis versicolor may reach as high as 80% after 2 years, it is crucial to treat the condition well during the first year. [8] Primary lesions tend to appear on the face, whereas recurrence is linked to advanced age, male gender, and skin type III, as well as duration, shoulder, and chest involvement. A correlation between treatment success and prevention of future TV infection was not seen.

Patients with darker skin tones are more likely to have postinflammatory pigmentary alterations, necessitating more intensive treatment of lesions [3].

5. Conclusion

Significant associations were found between skin type III and the occurrence of recurrent PV, hyperpigmented lesions, and chest discomfort. Varicella recurrence, hypopigmented lesion prevalence, neck and nape discomfort, and hyperhidrosis were all substantially linked to skin type IV.

Therefore, more rigorous combination treatment is recommended for individuals with hypopigmented PV skin type4.

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