PITYIASIS VERSICOLOR IS-IT INFECTIOUS OR NOT ?

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ABSTRACT

The aim of the present study is to determine whether pityriasis versicolor is and infectious disease or not. Twenty volunteers were studied, ten were normal individuals and the other ten were patients who had a history of infection with Pityriasis versicolor (PV). Three adhesive plaster tapes were placed on the upper back of each volunteer. The first tape contained Pityrosporum, the second tape Malessezia furfur, and the third rape which was empty was used as control. Two weeks later, all tapes were removed and the skin was re-examined both clinically and mycologically. In those patients with a history of PV, lesions appeared under the first tape in 8 patients (80%), and both under the second and third tapes in 6 patients (60%). Among the control group, Pityriasis versicolor lesions appeared under the first tape in 2 volunteers (20%), and under both the second and third tapes in one patient each (10%). These findings indicated that only in the susceptible individuals did these organisms yield P.V. lesions clinically.

INTRODUCTION

Pityriasis versicolor is a superficial infection caused by the lipophilic yeast Malssezia furfur. Similarity between Malassezia furfur and species of pityrosporum in antigenicity. 3, growth cycle.. 4 and by electron microscopy. 5 indicated that this organism is the patholgenic form of these commensal pityrosporum. Pityrosporum. Pityrosporum orbiculare and ovale are the two years most frequently identified as saprophytes in the epidermis, particularly the face and scalp. 6, 7, 8. The two forms are identical in antigen. 9, 10 structure 11.12 and in physiological properties 13. It seems likely that these organisms are varieties of the same species. As Pityrosporum orbiculare and ovale are present as saprophytes in normal human skin, so Pityriasis versicolor cannot be considered contagious. The aim of the present study is to determine whether Pityriasis versicolor is an infectious disease or not.

Patients and Material :
Patients :

Twenty volunteers were studies (16 men and 4 women ; age ranged, 18 to 38 years). Ten were normal individuals and the other ten were patients who had a history of Pityriasis versicolor. All volunteers were selected from the outpatient clinic of the Department of Dermatology at Al-Ain Hospital. Informed consent was obtained from each of the volunteers. A complete history was taken and after a careful physical examination they were examined under woodís light.

Material :

In each volunteer, three adhesive plaster were used. The first tape consisted of Pityrosporum yeast that was collected from culturing scaly scalp, the second tape consisted of Malassezia furfur which were collected from typical scaly lesions of Pityriasis versicolor in the patients nor included in this study, and the third tape which was empty and was used as a control. All these tapes were placed on the upper back of each volunteer.

Two weeks later, all were removed and the skin was re-examined both under daylight and woodís light. Scraping from these sited were also examined under the microscope using the cellotape stripping technique stained with Parker (blue-black) ink.

RESULTS

Clinical findings :

Results are presented in Table 1. In those patient with a history of Pityriasis versicolor, lesions appeared under the first tape in eight patients (80%), and under both second and third tapes in six patients (60%). Among the control group, lesions appeared under the first tape in two volunteers (20%) and under both second and third tapes in one patient (10%). The difference is statistically significant. (P(0.001).

Mycological findings:

The results of mycological study at these site were indicated in table II. In patients group, spores often with hyphae were seen in all patients (100%)

under both first and second tapes and in eight volunteers (80%) under the third tape. Among the control group, spores often without hyphae were seen in 40% under the first and second tapes and in 30% under the third tape. The difference is statistically significant (P(0.001).

Comments:

Much controversy have been raised about the question of whether the Pityriasis versicolor is infectious or not. Since Pityriasis versicolor is caused by the lipophilic Malassesia furfur and this yeast is believed to be a pathogenic from of a commensal skin flora of Pityrosporum, therefore, it seems logical that this disease is not infectious. Under certain circumstances, however, Pityrosporum may become virulent and give rise the clinical lesions of Pityriasis versicolor. Cutaneous lipid, sweat secretion 16, 17 hormonal 2,16 factos, Immunological disturbance 18,19 hereditary facto 20,21 and malnutrition 22 have been incriminared in the pathogenesis of this disease. From this study, experimental inoculation with Malassezia furfur and Pityrosporum into normal skin in health volunteers did cause clinical change in the skin only in 10% and 20% respectively. However, Pityriasis versicolor lesions appeared in 80% and 60% in those patients who gave a history of Pityriasis versicolor (statistically significant P(0.001). These findings indicated that in the susceptible individuals did these organisms, easily, yield Pityriasis versicolor lesions. Among the lesions under the third tape which was empty could be explained by the probable occurrence of natural infection under a media of occlusion.

It is concluded that Pityriasis versicolor is non infectious disease and conversion of Pityrosporum to the pathogenic form depends upon susceptibility of the patient to many predisposing factors mentioned before. This is the most likely the reason for the difficulty in achievement a permanent cure for patients with Pityriasis versicolor and the possible reason for chronicity. If this is true there is no need to disinfect bed cloths, and family or household members do not require prophylactic therapy.

Table: 1 Clinical results after two weeks among both group

	PATIENTS			CONTROL		
	1st tape	2nd tape	3rd tape	1st tape	2nd tape	3rd tape
1	+	+	+	-	-	-
2	-	-	-	-	-	-
3	+	+	+	-	-	-
4	+	+	-	+	+	+
5	+	_	+	-	-	-
6	+	+	+	-	-	-
7	+	-	-	+	-	-
8	-	+	+	-	-	-
9	+	+	+	-	-	-
10	+	-	-	-	-	-
	80%	60%	60%	20%	10%	10%

Table: 2 Mycological results among both group

	PATIENTS			CONTROL		
	1st tape	2nd tape	3rd tape	1st tape	2nd tape	3rd tape
1	+	+	+	-	-	-
2	±	±	-	-	-	-
3	+	+	+	±	-	-
4	+	+	±	+	+	+
5	+	±	±	-	±	-
6	+	+	+	-	-	-
7	±	±	±	+	+	±
8	±	+	±	-	-	-
9	+	±	+	+	+	+
10	±	±	±	-	-	-
	100%	100%	80%	40%	40%	30%

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