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Studies on Pityriasis Versicolor in Egypt

II. Clinical and Therapeutic

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Clinical diagnosis of Pityriasis versicolor (P. V.) is usually very easy. Yellow, brown, fawn-coloured, or dark brown patches, or continuous sheets of scaling are present, usually on chest, back and abdomen. The sternum and the center of the back are most commonly involved (BEARE et al. 1968). There are numerous descriptions of atypical distributions and very extensive involvement (SUZUKI, 1928, COSTA, 1942). BUMGARNER and BURKE (1949) described uncommon clinical cases involving neck, scalp, groin and extremities. OCHI (1939), CARPENTER (1943), AQUILERA-MARURI and BRENA-ZORILLA (1950) as well as ARGUELLES-CASALS (1952) described cases of P. V. exclusively localised to the face. BAER (1938), BAER and BERESTON (1941), COSTA et al. (1943), VANBREUSEGHEM (1957), RICE (1963) and GONCALVES (1963) described cases confined to the hairy scalp. ROBERTS (1969), studying 25 patients, found 10 of them prominent flexural involvement and in some cases, the rash was extensive involving dorsum of hands and thighs, and one involvement of the male genitalia.

Material and Methods

In the present work, two hundred P. V. patients were chosen at random for thorough clinical, mycological and histopathological studies. These patients came to the Dermatology Clinic from Cairo, Giza, Shebin El Kom, El-Gharbia, Bahtim, El-Qualyubiya, Shebin El-Kanater, Suez, Kafr El-Sheikh, El-Fayoum, Nuba and one patient from Sudan.

All patients were examined completely naked in direct day light. All the skin surface from the scalp down to the toes was thoroughly examined for the distribution of P. V. lesions using Wood's light.

For treatment trials the following preparations were used:

1. Whitfield Ointment (twice daily).
2. Tincture iodine 2.5 in 50 % alcohol (twice daily).
3. Whitfield in alcohol (twice daily).
4. Combined treatment of tincture iodine (2.5 %) by day and Whitefield in alcohol by night.
5. Sulphur ointment (2 %) (twice daily).
6. Benzanil lotion (33.3 % benzyl benzoate) applied once daily on 3 successive days, then repeated 15 days later.
7. Tolnaftate paint 1 % (Schering) (twice daily).
8. Selsun (Abbott "Selenium sulphide suspension, 2.5 %" rubbed on the skin once daily followed by a bath.
9. Mitigal (Bayer) "mesulphen 2 %" once daily for two weeks.
10. Sodium thiosulphate (30 %) aqueous solution (twice daily).
11. Mycostatin Ointment (Squibb) (twice daily).
12. Potassium iodide orally.

With any of these lines of treatment, the patients were asked to have a daily bath and to change their clothes as frequent as possible. The patients treated were divided into groups of 14—20 each. Follow-up and evaluation of treatment depended on clinical, Wood's light and direct microscopical examination.

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Results

A. Clinical

In all cases the primary lesion of the disease was macular; in 15 cases follicular lesions were noted as well. The macules in some areas formed large patches. The color varied from pale yellowish-brown to dark brown (**Fig. 1 & 2**).

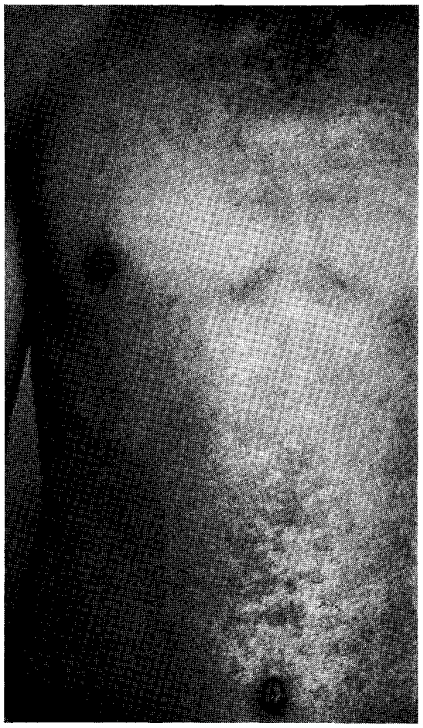

Fig. 1: Extensive case of P. V. in a male patient with umbilical involvement

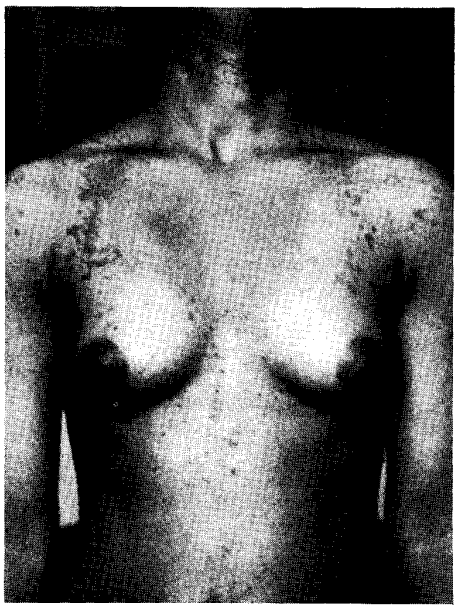

Fig. 2: P. V. in a young female patient involving the breast, shoulders and neck

In 45 patients most of the lesions were yellowish-red. The individual lesions or patches were covered with very fine scales, which were sometimes very difficult to be detected except after scratching the surface with the edge of a glass slide. The follicular lesions appeared macular but slightly raised above the skin.

The onset of the disease was gradual in all cases and it was chronic and recurrent in spite of various lines of treatment applied. Twenty-seven males and 28 females complained of mild itching on sweating; 14 males and 5 females of mild itching without sweating. Two males and 2 females suffered from prickling sensation. Sixty-nine males and 53 females had no complaint except the cosmetic appearance (**Fig. 3**).

Fig. 3: P. V. lesions localised to the neck

The commonest site, where P. V. lesions first appeared was the mammary area, followed by neck, scapular area and shoulders (**Table I**). This was nearly the same in both sexes.

Table I: Frequency of the sites first affected by P. V. in both sexes

Sites	Males (112)		Females (88)	
	No.	%	No.	%
Mammary area	46	41.0	37	42.4
Neck	33	29.5	17	19.3
Scapular area	10	8.9	8	9.0
Shoulders	9	8.0	8	9.0
Sternal area	4	3.6	3	3.4
Abdomen	4	3.6	7	7.9
Arms	2	1.8	4	4.5
Face	1	0.9	3	3.4
Forearms	1	0.9	—	—
Axilla	1	0.9	—	—
Cubital area	1	0.9	1	1.1

The highest percentage of affection in males was found to be the neck, then shoulders, mammary, scapular and interscapular areas (**Table II**). In females, the mammary area was the commonest part of the body affected, followed by the sternal and scapular areas, then neck and shoulders. Palms were affected in only one male patient. No lesions were noticed on the external genitalia of females, whereas 9 male patients showed lesions on that site. Legs were rarely affected in both sexes. Dorsum of feet, soles and interdigital spaces were negative for P. V. lesions.

Table II: Regional distribution of P. V. lesions and its percentage in the two sexes

Sites affected	Males (112)		Females (88)	
	No.	% of Affection	No.	% of Affection
Scalp	21	18.75	9	10.2
Hairline	52	46.4	41	36.6
Eyebrows	4	3.5	3	3.4
Ears	20	17.9	16	18.2
Behind ears	46	41.0	32	36.3
Face	38	33.9	26	29.5
Neck	93	83.0	66	75.0
Exposed V-shaped area of chest and back of neck	5	4.5	7	7.9
Chest, Sternal area	70	62.5	71	80.7
Mammary area	83	74.0	71	80.7
Lateral sides	70	62.5	60	68.2
Axillae	23	20.5	5	5.7
Abdomen	58	51.8	47	53.4
Umbilicus	34	30.4	22	25.0
Suprapubic area	26	23.2	9	10.2
Crural area	15	13.4	9	10.2
Ext. genitalia	9	8.0	—	—
Shoulders	84	75.0	66	75.0
Back Interscapular area	71	63.4	66	75.0
Scapular area	81	72.3	69	78.4
Gluteal area	29	29.9	23	26.1
Arms	54	48,2	49	55.7
Forearms	35	31.25	18	20.5
Cubital area	33	29.46	16	18.2
Hands: Dorsum	18	16.0	5	5.7
Palms	1	0.9	—	—
Fingers	17	15.2	1	1.1
Thighs	12	10.7	13	14.8
Legs	1*	0.9	1*	1.1
Popliteal Areas	12	10.7	3	3.4
Feet	—	—	—	—

* Flexor Surface

B. Treatment

As is shown in **Table III**, it is clear that the best results were obtained with sulphur ointment, sodium thiosulphate and tolnaftate.

Table III: Response of pityriasis versicolor patients to different lines of treatment

Line of Treatment	No. of cases	Duration of trt. in wks.	Mycologically negative pts.		Repigmentation after cessation of trt. (wks.)	Recurrence (within one year)	
			No. of pts.	%		No.	%
Whitfield's Ointment	9	3—4	9	100.0	5—6	5	55.6
Whitfield's Ointment	10	6—7	10	100.0	2—3	1	10.0
Tincture iodine	16	3—4	16	100.0	5—6	10	62.5
Whitfield's in Alc.	16	3—4	16	100.0	5—6	10	62.5
Tinc. iodine + Whitfield's Oint.	14	3—4	14	100.0	4—5	8	57.1
Sulphur Ointment	18	3—4	18	100.0	4—5	2	11.1
Benzanil Suspension	17	3 d + 3 d*	16	94.1	5—6	3	18.8
Tolnaftate Paint	15	3—4	13	86.7	5—6	2	15.4
Tolnaftate Paint	5	6—8	5	100.0	3—4	0	—
Selenium Sulphide	15	3—4	9	60.0	6—8	7	77.8
Mitigal Suspension	16	2—3	6	37.5	6—8	6	100.0
Sodium Thiosulphate	14	3—4	14	100.0	5—6	2	14.3
Sodium Thiosulphate	4	6—7	4	100.0	2—3	0	—
Mycostatin Ointment	18	3	0	—	—	—	—
Potassium iodide	15	3	0	—	—	—	—

* 3 d + 3 d: applied for 3 days, then repeated 15 days later.
N. B.: Cases not followed up completely were dropped off from the Table.

trt. = treatment wks. = weeks pts. = patients

Discussion

The commonest sites of affection with P. V. in males were found to be different from those in females. In males the following sites were found to be affected in the following descending order: neck, shoulders, mammary, scapular, interscapular and sternal areas and lateral sides of the chest. In females, the order of frequency was found to be: mammary, sternal, scapular, neck, shoulders, interscapular areas and lateral sides of chest. This difference between the frequency of affection of different sites in males and females may be explained by differences in dressing habits which predispose to excessive sweating in certain areas of the body, which differ in both sexes. This is substantiated by the fact that the commonest site of onset is the same in both males and females, mammary followed by the neck, scapular area and shoulders.

In the present study, certain rare sites of affection with P. V. were observed. These were:

(a) One palm affection in an extensive case of P. V. in a male patient.
(b) Affection of external genitalia in 9 males.

Atypical distribution of the disease was also reported by many workers (VANBREUSEGHEM, 1957; RICE, 1963, and ROBERTS, 1969).

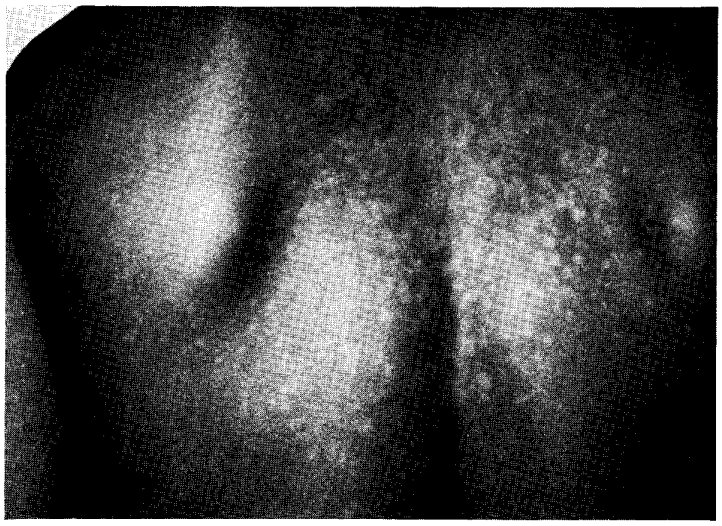

Fig. 5: P. V. lesions on the back

The umbilical region was found to be affected in 30.4 % of males and in 25 % of females; the axillae in 20.5 % in males and 5.7 % in females; the scalp in 18.75 % of males and in 10.2 % of females, and the crural areas in 13.4 % in males and 10.2 % in females (Table II). This high percentage of affection in these hidden areas may explain the frequency of recurrence in P. V.

Some lesions were found to be lighter in colour than the normal skin, but covered with very fine scales in which Pityrosporum orbiculare could be demonstrated. This finding can explain the old nomenclature. "P. V. Alba" or achromia parasitica (Pardo-Castello and Dominguez, 1924, and Jelliffe and Jacobson, 1954). See **Fig. 4.**

Topical applications used for treatment of P. V. were in most of the cases unsatisfactory and high recurrence rate was observed (Table III). This may be attributed to the fact that the organism resides in hidden areas, such as the umbilicus, axillae, scalp, crural areas and its intrafollicular location. For this reason, a systemic therapy in the form of potassium ioide syrup was thought of, but unfortunately the results were not encouraging.

Mycostatin Ointment was tried on the assumption that the organism could be considered related to yeast. The result was unsatisfactory too. Whitfield's ointment and tincture of iodine 2.5 % independent of each other and combined together (one applied by day and the other by night) gave 100 % cure after 3—4 weeks, but recurrence rate within one year was high (55.6 %—62.5 %). The results of Mitigal suspension was not encouraging, as mycologically negative skin scrapings were only found in 37.5 % of the 16 cases followed up and the recurrence rate was 100 %. Moreover, the patients resisted its use because of the bad odour and colouring of clothes.

Benzanil suspension (3 applications each course) gave mycological cure in 94.1 % of cases after two successive courses of treatment 15 days apart. The main advantage of this drug is the short course of treatment. Moreover, the recurrence rate was less than the previous medications (18.8 %).

Tolnaftate gave good results, especially when used in localised cases of P. V. Negative mycological results after 3—4 weeks were obtained in 86.7 % of cases and the recurrence

rate was 15.4 %. This is consistant with the results of ROBINSON and RASKIN (1965) and EL-HEFNAWI and RASHEED (1970), who reported excellent results of Tolnaftate in the treatment of 30 cases of P. V. The drug was applied twice daily for 8—10 weeks. No recurrence during one year observation occurred.

Sulphur Ointment (2 %) and aqueous solution of sodium thiosulphate (30 %) gave the best results as the recurrence rate was 11.1 % and 14.2 % in turn, while mycologically negative results were obtained in all cases after 3—4 weeks from the start of treatment. It is to be mentioned that several sulphur containing substances, sodium thiosulphate, selenium sulphide as well as sulphur itself were found to inhibit markedly the growth of Pityrosporum ovale which belongs to the same genus (WEARY and SVILLE, 1968).

Selenium sulphide suspension (2.5 %) gave a low percentage of mycological cure (60 %) after 3—4 weeks application and a high recurrence rate (76.7 %). ROBINSON and YAFFE (1956) using 1 % solution of selenium sulphide in a water-miscible ointment, twice daily for two weeks, noted the involution of lesions in 28 P. V. patients with no recurrence after one year. Also a suspension of 2.5 % selenium sulphide in a detergent was tried by LEVAN (1957) and GIORDANO (1963). GIORDANO reported the recovery of 19 patients after a single overnight application, but he did not mention, whether he examined the P. V. lesions microscopically before and after treatment. ALBRIGHT and HITCH (1966) treated 98 patients by a single overnight application of a 2.5 % selenium sulphide suspension in a detergent vehicle, they reported marked clinical involution of the infection in 90 patients with negative mycological examination in 81 cases. Recurrence of infection was frequent in patients examined 6 months or more after treatment.

Sodium thiosulphate 30 %, Whitfield's ointment and Tolnaftate paint gave a better result when used for a prolonged course (6—8 weeks), as the mycological response after this period was 100 % and the recurrence rate was 0—10 %.

Follow up of 20 cases which have been treated with sodium thiosulphate twice daily and Whitfield's ointment by night for two weeks more after repigmentation took place, yielded the best results as the recurrence was nil for one year observation.

U. V. irradiation was found effective only in the treatment of hypopigmented patches of P. V. after successful treatment. When used alone without any local applications, patients came with new lesions that were not present before taking the U. V. rays, as evident clinically by Wood's light examination.

An interesting point to be mentioned is that 12 cases of P. V. had lesions localised only to the face and exposed V-shaped area of the chest and back of the neck **(Fig. 3 & 4)**. Three of them had photosensitive light eruptions and one had chronic discoid lupus erythematosus of the face.

Summary

Two hundreds pityriasis versicolor patients were chosen at random for clinical and therapeutic studies.

The appearance and distribution of lesions were described in details. The commonest site, where P. V. lesions first appeared was the mammary area, followed by neck, scapular area and shoulders. This was nearly the same in both sexes. The highest percentage of affection in males was found to be the neck, then shoulders, mammary, scapular and interscapular areas. In females, the mammary area was the commonest part of the body affected, followed by the sternal and scapular areas, then neck and shoulders.

The relatively best therapeutic measure against P. V. was found to be application of sulphur containing compounds, namely sulphur ointment and sodium thiosulphate. Tolnaftate gave good results, especially when used in limited P. V. lesions. The best result was obtained when the duration of treatment was extended for two weeks after repigmentation took place.

Zusammenfassung

200 Patienten mit Pityriasis versicolor zeigten die typischen Krankheitserscheinungen am häufigsten an der Brust. In der Verteilungshäufigkeit folgten dann Hals und Schulterregion ohne große Unterschiede in beiden Geschlechtern. Als relativ beste Behandlung erwies sich die Anwendung von Tolnaftat sowie von schwefelhaltigen Zubereitungen wie Schwefelsalbe und Natriumthiosulfat. Tolnaftat wirkte besonders gut bei umschriebenen Herden. Es wird empfohlen, die Behandlung nach Eintreten der Repigmentierung noch 2 Wochen fortzusetzen.

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