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The Treatment of Psoriasis as evolved at The H. F. Verwoed Hospital, Pretoria; and a Comparative Study of the Results of a Clinical Survey on Psoriasis

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In March, 1968, a discussion was held with the dermatologists in this hospital in an attempt to find more efficient physiotherapeutic treatments for common skin diseases. The patients most frequently inadequately treated and who reappear so constantly in clinics, were the psoriatics. It is estimated that between 0,2 per cent and 1 per cent of the population of all social groups in this country have psoriasis. These patients account for approximately 15 per cent of all patients seen at dermatology clinics.

It was decided to modify Ingram and Goeckerman methods of treatment so as to be suitable in our warm climate for the treatment of psoriatics as outpatients. This was important as hospitalization in the treatment of a patient who is not acutely ill is costly to both the patient and the hospital and indeed, many man hours of work would be lost by hospitalizing psoriatic patients in the effort to heal this skin disease.

It must be remembered that the aetiology of psoriasis remains unknown, though recent research indicates that it may be genetically determined. The disease is unpredictable and capricious in its course, but is usually chronic. The prognosis too is said to be as unpredictable as 100 years ago.

Thus, treatment evolved in Pretoria was especially adapted to cater for outpatients, but still allowing persons to cover their normal daily routine and work schedule. Treatment had to be suitable for generalized psoriasis patients and it had to be intensive and yet suitable to the local climate.

The treatment evolved consisted of:—

1. *Coal Tar Baths.* Liquid Picis Carbonate is used viz., 1oz. liq. Picis Carb. to each 10 gallons of water. The temperature of the water is approximately 100°F or 38°C. The patient stays in the bath 20 to 30 minutes and scrubs all lesions with a brush to loosen and remove the scales.
2. *Ultra Violet Irradiation.* This is always given using the Theraktin lamp. The Theraktin is used because of the constant emission of rays from 2 900°A to 3 300°A. General U.V.R. is given with the patient at 27 inches from the light source and a suberythema to first degree erythema dose given. This suppresses epidermal cell activity and promotes keratosis and subsequent thickening of the epidermis. Patients are all skin tested prior to treatment, to assess sensitivity to U.V.R. and dosages are subsequently progressed in treatment, as recommended in the use of the Theraktin. Maximum treatment time is 10 minutes in prone and 10 minutes in supine lying.

   It is found difficult to irradiate the scalp by conventional means, so the scalp is treated by parting the hair and exposing the partings to Ultra Violet Rays emitted from a "Mushroom" applicator of the Kromayer Lamp. A labile technique is used.
3. *Synalar or Betnovade ointments* in ung. emulsificans aquosum are prescribed for patients. These are cortisone based ointments so must be prescribed drugs.

   The ointment is spread thinly over all psoriasis lesions, using a spatula.
4. *Hotpacks.* Each alternate treatment, patients are positioned in prone and supine lying, are covered with a layer of gauze type material (to avoid contact between ointment and bed linen), and are then covered with eight to 10 thicknesses of bunny blankets and/or towels. (Hotpacks or Hydropaks are pads filled with a silicone substance. These pads are heated by being boiled in water and subsequently retain this heat.) Five to seven hotpacks are placed on top of the blanket covering and the whole is then covered by a waterproof macintosh. The patient stays under this steam type heat for a period of 20 to 30 minutes. A general hyperaemia is caused, the pores of the skin open and the synalar ointment becomes absorbed. Perhaps it is also of importance that during this treatment period patients relax completely.

This is the complete outline of treatment initially used. Occlusion was later added in patients where response to treatment was slow. Occlusion was also used in all palmoplantar lesions.

Occlusion is given by synalar first being spread over lesions and the area is then covered by plastic sheeting and is then sealed to the skin using Blenderm tape. This is a plastic tape and is one of the non-allergic kinds of plasters. Initially Zinc Oxide plaster was used but some patients showed an allergic reaction or a Koebner response to this. Occlusion was preferably kept in place for a 48 hour period.

Depending on the severity of lesions, treatment frequency was either daily, three times or at least twice a week.

Results using the above methods of treatment, were most encouraging. Patients were then subsequently divided into four groups to analyse and compare results of different methods of treatment.

The forms of treatment chosen for this survey were:—

Group 1.—Coal tar bath + ultra violet light.

Group 2.—Coal tar bath + ultra violet light + synalar + occlusion.

Group 3.—Coal tar bath + ultra violet light + synalar + hot packs.

Group 4.—Coal tar bath + ultra violet light + synalar + hot packs + occlusion.

Records of all treatments were kept as well as case histories being taken. Diagrams and/or photographs were taken to record the extent of the disease and note subsequent improvement accurately.

In this trial series 54 patients were included, and from these patient surveys, the following information was extracted (see Table I).

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Table I: History of Cases.

	Total number of patients	*Male*	*Female*
	54	24 i.e. 44,4%	30 i.e. 55,6%
Ages	6–70 years average 29,4 years	8–70 years average 25,4 years	32–66 years average 32,7 years
Duration of disease	2 months to 67 years average 10,55 years	3 months to 40 years average 25,4 years 8 patients had had disease only a few months	2 months to 67 years average 11,2 years 9 patients had had disease only a few months
Age when disease started	Babies to 55 years old average 18,8 years	Babies to 39 years average 15,6 years	Babies to 53 years average 21,4 years
Predisposing Causes: a. Heredity	10 patients or 18,5% All these patients report the disease beginning as very young children, under the age of puberty	5 20,8%	5 16,7%
b. Seasonal or Climate	8 patients or 14,8% More patients started treatment in July and Nov./Dec. than other months	4 16,7%	4 13,3%
c. Stress and Fatigue	20 patients or 37%	8 33,4%	12 39,9%
d. Acute presentation	4 patients or 7,4%	2 8,4%	2 6,6%
e. Koëbner	5 patients or 9,3%	3 12,6%	2 6,6%
f. No apparent cause	16 patients or 29,6%	7 29,2%	9 30%

Table II. Division of patients in survey.

Treatments	*Total patients*	*Male*	*Female*
Group 1	being 8 patients having 114 treatments, i.e. average 14,3 each	2 = 39 treatments av. 18,5 each	6 = 75 treatments av. 10,7 each
Group 2	11 patients having 274 treatments average = 24,9 each	4=112 treatments av. 28 each	7=162 treatments av. 23,3 each
Group 3	22 patients having 420 treatments average 19,09 each	11=203 treatmts. av. 18,5 each	11=217 treatmts. av. 19,7 each
Group 4	10 patients having 432 treatments average 43,2 each	7=339 treatments av. 48,4 each	3=93 treatments av. 31 each
Total	51 patients having 1 240 treatments average 24,3 each	24=693 treatmts. av. 28,9 each	27=547 treatmts. av. 20,3 each

3 Patients failed to complete a course of treatment.

Distribution of disease

All patients in the series had generalised psoriasis, but obviously severity of disease varied between patients. Knees, elbows, sacrum and scalp were in many cases the worst afflicted areas and also the most difficult areas to clear in treatment.

Previous treatments

Almost all (95%) of the patients had before being referred for physiotherapy, used a variety of ointments and/or home remedies in attempting to treat the lesions. Six patients (or 11,1% of series) had previously had ultra violet treatments using an alpine sun lamp. One patient (or 1,9% of series) had had methotrexate injections. Six patients (11,1%) had also previously been hospitalised in the treatment of the disease.

None of the patients in the series had ever had their psoriasis lesions healed completely for longer than a year. (*Division of patients in survey. See Table II.*)

The reason for some of these average treatment numbers being high is that a total of seven patients had over 40 treatments each. Of these seven patients, three healed with further treatments but the remaining four did not respond even after further treatments and were referred back to doctors. These four patients were then all given methotrexate injections. All responded initially to injections, but have had to have weekly maintenance doses of methotrexate, otherwise a remission is immediately observed.

The fastest initial response to treatments was in any of the patients having occlusion treatments. However, it was not always practical to do occlusion and especially not to a large area for a maintained period. This is largely due to climatic conditions, patient vanity and inconvenience to patients of having to keep a limb or other area wrapped up in plastic for 48 hours. All patients, if given the choice, preferred treatment by hotpacks instead of occlusion — even if the disease does take a little longer to heal.

It has been suggested in literature that psoriasis may be aggravated by over treatment. This might account for the apparent increase in average treatments of patients in group 4. (*Results. See Table III.*)

Table III. Results.

Results	*Male*	*Female*
Group 1	2 *patients:* Both cleared and still clear for periods of 2 to 15 months.	6 *patients:* All cleared initially. 3 still clear periods. 12 to 14 months. 2 needed occasional maintenance treatments. 1 has had relapse.
Group 2	4 *patients:* 2 cleared for from 3 to 18 months. 1 clearing still. 1 improved — relapse (had 63 treatments).	7 *patients:* 5 cleared for periods 6 to 16 months. (1patient had 93 treatments and 1 has had a mild relapse of hands and knees). 1 clearing still. 1 almost cleared and discontinued treatment self.
Group 3	11 *patients:* 9 cleared from 3 to 18 months (2 have had mild relapses) 2 still improving	11 *patients:* 6 cleared from 2 to 18 months. (One had 83 treatments and 2 have had mild relapses). 2 almost clear and discontinued. (One later on methotrexate injections.) 3 still improving
Group 4	7 *patients:* 4 cleared from 6 to 18 months (one had a mild relapse and one a + + relapse at 6 months). (One had 47 treatments and one 63.) 1 still improving. 2 showed waves of remissions and exacerbations. Both on to methotrexate injections. One of these had 111 treatments.	3 *patients:* 2 cleared. One improved and relapsed constantly had 45 treatments and subsequently had methotrexate injections.

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