

PSORIASIS - A CLINICAL STUDY

By

T. P. SHARMA, M. D. (Medicine), D. P. H.

and

G. C. SEPAHA, M. D. (Medicine),

Department of Medicine, M. G. M. Medical College, and M. Y. Hospital, Indore.

Psoriasis is known since antiquity. It has been reported to occur in various countries like U. S. A. (Ormsby),¹ England (Sequeira)^{1,2} and India (Lahiri)³, with an incidence varying from 3 to 5 per cent. Various races and communities vary in their susceptibility to this disease. It is rare among Eskimos and Negroes. In India, Parsis have been found to be more susceptible than Hindus and Mohammedans (Gans).^{1,2} Observations regarding the age and sex incidence have also varied. It is observed to be maximum at puberty.

Its etiology remains obscure though various factors like heredity, infections, allergy, trauma, emotional disturbances, metabolic alterations have been considered to be responsible.

MATERIAL AND METHODS

Thirty cases of psoriasis attending the O. P. D. and/or admitted in the M. Y. Hospital, Indore, have been included in the present study. During this period a total of 3570 patients suffering from skin diseases attended the hospital. A detailed history of each patient was recorded. In every case thorough general, systemic and dermatological examinations were carried out. Haemogram, blood grouping, stool and urine examinations were done in all the cases. E. S. R. was done by Wintrobe's method. Gastric analysis was done in seventeen cases. All these investigations were done by techniques described by Kolmer.⁸ The test for L. E. cell phenomenon was performed in each case. Skiagram or screening of the chest and E. C. G. examinations were carried out in all the patients.

RESULTS

Observations made have been reported in the following tables :-

1. Age incidence :

Tabel - I

AGE INCIDENCE.

Age in years	No. of cases.	Percentage of cases.
Below 15	2	6.66
15-30	13	43.34
31-45	10	33.33
Above 45	5	16.67
Total :	30	100

Psoriasis seems to be commonest (76.6%) in the middle age groups, in 15 years to 45 years, maximum being in 15-30 years age period. The incidence is much lower above the age 45 of years and below the age of 15 years (16.67 and 6.66% respectively).

2. Age of Onset:

Tabel - II
AGE OF ONSET

Age of onset in years	No. of cases.	Percentage of cases.
Below 10	—	—
11-20	11	36.66
21-30	10	33.33
31-40	3	10.00
41-50	4	13.34
Above 50	2	6.67
Total:	30	100

The onset of the disease was most often (36.66%) in the second decade of life declining gradually through the third and fourth decades (33.33 and 10.00% respectively) though it showed a slight rise to 13.34% in the fifth decade.

3. Sex incidence:

Out of the total of thirty patients, only five were females.

4. Occupation:

Table III
RELATION TO OCCUPATION

Occupation.	No. of cases.	Percentage
Farmer	7	23.33
Clerks	4	13.33
Students	4	13.33
House-wives	4	13.33
Mill workers	4	13.33
Businessmen	2	6.67
Contractor	1	3.34
Tailor	1	3.34
Barber	1	3.34
Others	2	6.67
Total.	30	100

It is observed to occur most frequently in farmers (23.33) than in other occupations.

5. Symptoms:

The usual and the main complaint (and often the only one), in the patient's own words was either "Fungsiyan nikal ayeen" (meaning small punctate lesions) or "Chhaley nikal aaye" (describing the guttate or nummular lesions) or "Chatte pad gaye" (when plaques were present). "Khuwane se bhusa girta hai" (meaning the silvery dust that comes off when the scaly lesions are scratched) was the accompanying complaint when the lesions were covered with the characteristic silvery scales.

Table IV
SECONDARY INFECTION AND ITCHING

Itching and Secondary infection.	No. of cases	Percentage
No itching	22	73.00
Severe itching	3	10.00
Slight itching	5	16.66
Secondary infection	8	26.66

In eight cases (26.66%) in which secondary infection was present, itching of varying intensity was complained of. Of these, three cases (12%) had intense itching, while in the remaining it was only slight.

6. Duration of the Disease:

Table V
DURATION OF THE DISEASE

Duration in years	No. of cases	Percentage
Less than 1 year	5	16.67
1-6	14	46.67
7-12	4	13.33
Above 12	7	23.33
Total	30	100

The duration of the disease, at the time of examination of the cases, varied from two months to twentytwo years. The chronicity of the disease is evidenced by the high proportion (83.33%) of the cases having the disease for more than one year.

7. Seasonal Exacerbation:

Table VI
SEASONAL EXACERBATION OF PSORIASIS

Season.	No. of cases	Percentage
Winter	15	50.00
Summer	2	6.66
Rainy	1	3.34
Indefinite	12	40.00
Total	30	100

Fifty percent of the cases studied had exacerbation or relapse of the disease during winter season. Two cases had exacerbation during summer and one in rainy season.

8. *Personal History :*

Table VII
CONSUMPTION OF ARTICLES OF ADDICTION

Articles	No. of cases	Percentage
Alcohol	9	30.00
Tobacco	16	53.35
Others (Bhang, Ganja, etc.)	7	23.35

Sixteen cases (53.35%) admitted smoking or chewing tobacco. Alcohol and other articles of addiction, such as bhang or ganja were consumed by nine cases (30%) and 7 cases (23.33%) respectively.

Table VIII
DIETETIC HABITS

Diet	No. of cases	Percentage
Vegetarian	16	53.33
Non-Vegetarian	14	46.67
Total	30	100

Sixteen cases (53.33%) were vegetarians and fourteen cases (46.67%) were non-vegetarians. Among the non-vegetarians, too, meat was eaten only about once a week.

9. *Past History :*

A history of appearance of the lesion at the site of trauma was noted in two cases (Koebner's phenomenon).

Nine cases (30%) gave a history of chronic bowel trouble of the nature of dysentery, diarrhoea or constipation. Seven cases (23.33%) gave a past history of penile sore or a purulent discharge per urethra.

10. *Family History :*

In four cases (13.33%) history of similar skin affection was present among the other family members of which a mother, a brother, a daughter and in one case the wife were affected respectively.

11. *Initial site of onset :*

Table IX
INITIAL SITE OF ONSET

Site	No. of cases	Percentage
Scalp	21	70.00
Anterior aspect of Lower extremity	4	13.34
Scrotum and pubic region.	3	10.00
Elbow	1	3.33
Face	1	3.33
Total	30	100

The lesions were first noted on the scalp in twentyone cases (70.00%), The anterior aspect of the lower extremity, scrotum and pubic region and the elbow were the initial site of onset in 4 cases (13.34%), 3 cases (10.00%) and 1 case (3.33%) respectively. It is interesting to note that face was the initial site of onset in one case only.

12. *Physical Examination :*

Mostly mixed type of lesions were seen in the cases. For convenience sake the lesions were classified under the four common clinical types punctate, guttate nummular and plaques. Lesions in the nails are considered separately.

Table - X
INVOLVEMENT OF DIFFERENT SITES

Site	No. lesion.		Le ions present.	
	No. of cases.	Percentage.	No. of cases.	Percentage.
Scalp.	6	20.00	24	80.00
Face.	23	76.66	7	23.33
Muc. Membrane.	30	100.00	—	—
Trunk including sacral region :				
Anterior.	8	26.66	22	73.33
Posterior.	6	20.00	24	80.00
Upper Extremity :				
Extensor.	4	13.33	26	86.66
Flexor.	8	26.66	22	73.33
Lower Extremity :				
Extensor.	2	6.66	28	93.33
Flexor.	8	26.66	22	73.33
Nails.	23	76.66	7	23.33
Palms and Soles.	27	90.00	3	10.00

Table—XI
TYPES OF LESIONS

Site.	Punctate.		Guttate.		Nummular.		Plaque.	
	No. of cases.	%	No. of cases.	%	No. of cases.	%	No. of cases.	%
Scalp.	22	73.33	16	53.33	—	—	1	3.33
Face & Forehead.	1	3.33	5	16.66	—	—	1	3.33
Muc. Membrane.	—	—	—	—	—	—	—	—
Trunk including sacral region :								
Anterior.	5	16.66	8	26.66	8	26.66	4	13.33
Posterior.	4	13.33	6	20.00	5	16.66	13	43.33
Upper Extremity :								
Extensor.	7	23.33	8	26.66	4	13.33	11	36.66
Flexor.	8	26.66	13	43.33	3	10.00	2	6.66
Lower Extremity :								
Extensor.	8	26.66	8	26.66	5	16.66	12	40.00
Flexor.	10	33.33	13	43.33	3	10.00	2	6.66
Palms and Soles.	—	—	3	10.00	—	—	—	—

On an analysis of tables X and XI it is noticed that of the twentyfour cases (80%) who had the lesion of the scalp, the majority had punctate and guttate lesions and in quite a number of cases both the types of lesions were present together.

The face was involved in seven cases (23.33%) with mostly the guttate form of the lesion. In one case (3.33%) the typical crowning of the forehead was noticed. Not even a single cases of any lesion was observed in the mucosal surface.

Four cases had no lesion on the trunk. Among those who had lesions on the trunk, punctate, guttate and nummular types of lesions were more frequently found on the anterior aspect while plaques were more commonly found on the posterior aspect, particularly on the sacral region and the buttocks.

All types of lesions, such as punctate, guttate, nummular and plaques, were seen in both the extremities. The punctate and guttate forms of lesions were more frequently seen in the flexor aspects of both upper and lower limbs, while plaques were predominantly found on the extensor surface of the extremities. Only two cases (6.66%) had no lesion at all on the extremities.

Three cases (10%) had guttate form of lesions on the palms and soles. The nails were involved in seven cases (23.33%) showing colour changes and punctate depressions, elevations and partial destruction of the nails.

Table XII
INVOLVEMENT OF THE JOINTS

Symptoms & Signs	No. of cases	Percentage
Pain in joints	10	33.33
Rheumatoid like swelling of joints	2	6.66
Radiological abnormality	—	—

Ten cases (33.33%) complained of pain in the joints and of these two cases (6.66%) had swelling of the small joints of the hands and the knee joints. There was no radiological abnormality in any of these cases.

Table XIII
RELATION BETWEEN DURATION OF DISEASE, NATURE OF LESIONS AND JOINT PAINS

Duration of the disease in yrs.	Nature of lesion			
	Mostly and/or	punctate guttate.	Mostly and/or	nummular plaques.
	With Jt. Pain	Without Jt. pain.	With Jt. pains.	Without Jt. pains.
Below 1	1	3	1	—
1—6	—	6	3	4
7—12	—	1	2	2
Above 12	—	1	3	3
Total	1	11	9	9
Percentage.	33.33	36.67	30.00	30.00

A study of the above table brings out the following points :

- i. 86.66 per cent of the cases had the disease for more than a year.
- ii. Nummular lesion and plaques were seen in sixty per cent of cases.
- iii. The incidence of joint pains was very high (50 per cent) in cases with nummular lesions and plaques; while it was one out of twelve cases with punctate and guttate lesions.
- iv. The incidence of joint pains did not vary much with the duration of the disease.

13. Systemic Examination:

Two cases (6.66%) showed lesions of pulmonary tuberculosis one of which had a healed lesion. Emphysema of the lungs present in four cases. Liver was palpable and tender in one case. Another case had residual hemiplegia of the left side.

14. *Electrocardiographic Changes :*

Table - XIV

E. C. G. CHANGES

S. No.	Rate.	Rhythm.	Interval		ST segment.	T-Wave.	Interval	
			PR	QRS			QT	QTR
1.	90	Sinus.	0.16	0.08	Iso-electric.	+	0.34	0.90
2.	100	"	0.14	0.06	"	+	0.30	0.96
3.	96	"	0.16	0.06	"	+	0.34	0.94
4.	100	"	0.14	0.06	"	+	0.30	0.92
5.	98	"	0.16	0.08	"	+	0.36	0.98
6.	80	"	0.16	0.08	"	+	0.34	0.99
7.	82	"	0.16	0.08	"	+	0.36	0.98
8.	75	"	0.14	0.08	"	+	0.36	1.03
9.	109	"	0.12	0.06	"	+	0.28	0.94
10.	86	"	0.14	0.08	"	+	0.32	0.94
11.	60	"	0.16	0.08	"	+	0.36	0.96
12.	100	"	0.14	0.06	"	+	0.30	0.96
13.	71	"	0.16	0.08	"	+	0.36	0.99
14.	100	"	0.14	0.06	"	+	0.28	0.89
15.	108	"	0.12	0.06	"	+	0.30	0.92
16.	80	"	0.16	0.08	"	+	0.34	0.96
17.	98	"	0.16	0.08	"	+	0.36	0.98
18.	100	"	0.14	0.06	"	+	0.34	0.88
19.	92	"	0.16	0.05	"	+	0.30	0.90
20.	100	"	0.14	0.06	"	+	0.34	0.88
21.	98	"	0.16	0.08	"	+	0.36	0.98
22.	96	"	0.16	0.08	"	+	0.34	0.96
23.	86	"	0.14	0.06	"	+	0.32	0.94
24.	109	"	0.14	0.06	"	+	0.28	0.94
25.	100	"	0.16	0.06	"	+	0.30	0.92
26.	71	"	0.14	0.08	"	+	0.34	0.98
27.	96	"	0.16	0.08	"	+	0.34	0.98
28.	106	"	0.16	0.06	"	+	0.28	0.94
29.	104	"	0.16	0.08	"	+	0.30	0.92
30.	102	"	0.14	0.06	"	+	0.32	0.90

It would be evident from Table-XIV that there were no changes in E. C. G. in any case.

15. *Haematological Changes :*

The R. B. C. count varied from 2.5 to 5.4 mill/cu. mm. and the haemoglobin ranged between 9-16 Gms. per cent.

Table XV
DEGREE OF ANAEMIA ACCORDING TO R. B. C. COUNT

Degree of Anaemia	No. of cases	Percentage
Severe (less than 1.5 mill/cu.mm.)	—	—
Moderate (1.5–3 m/cu.mm.)	1	3.33
Mild (3–4.5 mill/cu. mm.)	22	73.34
Normal (Above 4.5 mill/cu. mm.)	7	23.33
Total	30	100.00

Moderate to mild anaemia has been noted with majority of the patients (76.67%).

Table XVI
TYPES OF ANAEMIA

Type of Anaemia	No. of cases		Total No. of cases.	% of the total No. of cases in Psoriasis
	Hypo-chromic	Normo-chromic		
Macrocytic	10	9	19	63.33
Normocytic	3	1	4	13.35
Microcytic	—	—	—	—

Quite a large number of cases (63.33%) had macrocytic type of anaemia, of which ten (33.33%) were hypochromic and nine (30.00%) were normochromic. Three cases (10.00%) had normocytic hypochromic and one case had normocytic normochromic type of anaemia. No case with microcytic anaemia was present.

15. Erythrocyte Sedimentation Rate :

Table XVII
E. S. R.

Corrected E. S. R. (mm. 1st hr.)	Psoriasis with joint pain.		Psoriasis without joint pain	
	No. of cases	Percentage	No. of cases	Percentage
Below 15	11	36.67	—	—
Above 15	9	30.00	10	33.33
Total	20	66.67	10	33.33

As revealed from the Table No. 17, of the nineteen cases of psoriasis without any joint pains, eleven cases (36.67%) had E. S. R. below 15 mm./hr., while in the remaining cases, it was raised above 15 mm./hr. All the ten cases (33.33%) of psoriasis with joint pains, had E. S. R. above 15 mm. 1st hour.

16. *Blood Groups :*

Table XVIII
BLOOD GROUPS IN PSORIASIS

Blood group	No. of cases	Percentage
A	7	23.34
B	10	33.34
O	8	26.66
AB	5	16.66
Total	30	100

The blood groups observed in psoriasis in order of frequency were B, O, A and AB. One-third of the cases (33.34) belonged to blood group B.

17. Kahn test and L. E. cell phenomenon were found to be negative in all the cases.

18. *Fractional Gastric Analysis :*

Table - XIX
F. T. M. ANALYSIS

Acidity.	No. of cases.	Percentage.
Achlorhydria.	3	17.65
Hypochlorhydria (below 10).	—	—
Isochlorhydria.	10	58.82
Low (10-25)	4	23.53
Medium (25-45)	3	17.65
High (45-65)	3	17.65
Hpperchlorhydria (above 65).	4	23.53
Total :	17	100.00

Of the seventeen cases of psoriasis, where F.T. M. was possible, ten cases (58.82%) had Isochlorhydria of which four (23.53%) had low Isochlorhydria, while three (17.65%) had high Isochlorhydria. Achlorhydria was present in three cases (17.65%) and hyperchlorhydria was found in four cases (23-53%).

DISCUSSION

Psoriasis has been found to be only 0.84% of all the skin disease cases attending our hospital. This figure is much lower than that of Lahiri⁹ (3%) in India), of Ormsby¹¹ (4% in U. S. A.) and of Sequeira¹² (5% in England). Ingram⁷ suggested that the incidence of this disease was low in the tropical countries. The figure observed by us may not be representative of the actual incidence because many patients with milder manifestations do not report themselves in the hospital. A seasonal variation in the incidence of this disease has been noted, being more often

in the winter season. The higher incidence of psoriasis during the active reproductive stage of life i. e. 15-45 years and greater incidence at puberty and climacteric may be associated with hormonal activity. The incidence in females as noted in the present study (5 males : 1 female) differs from that observed by Ingram⁷ (2 males : 3 females) and Watanabe⁸ (3 males : 2 females). Its lower incidence in females as observed may be due to their being less attentive to health, and as psoriasis many a times occurs primarily on the waist, buttocks and extensor aspects of the extremities, without causing troublesome symptoms, females would probably like to keep it hidden rather than seek medical advice. It seems to be doubtful if sex as such would influence the incidence of the disease. Its higher occurrence in farmers noted in this study would appear to reflect only the higher proportion of farmers in the population in this part.

Patients present themselves not for any physical disturbances but more because of aesthetic reasons, complaining of unsightly affection of the cutaneous surfaces which do not even itch. Itching has been noted in those cases who had secondary infection. This disease is chronic as 83.33% of the cases had the disease for more than one year. Psoriasis is known to exist for years, even for the whole life time, with remissions and relapses in between. Social conditions, dietetic habits and addiction to intoxicants did not appear to influence the occurrence of this disease. A hereditary component may be playing a part in psoriasis. In the present series a family history could be elicited in 13.33% of cases only. Similar history could be obtained by Aschner, Curth and Gross¹ in 17.9%, Ingram⁷ in 33.9%, Hoede⁵ in 50% and Grayson and Shair⁴ in 80% of their cases. These figures are however, much greater than our findings.

Our finding of the scalp to be the commonest site of start of the disease is in collaboration with the findings of others.

Scalp, extensor surfaces of extremities and sacral region have been noted to be the common sites of affection. In this study it was noticed that the flexor aspects are not infrequently affected, but with the punctate and guttate variety of lesions as against the nummular and the plaques, which were predominantly found on the extensor aspects of the limbs and the trunk posteriorly including the sacral areas. The palms and soles were involved with the guttate form of lesions in three cases (10%). The nails in this series, were involved in seven cases (23.33). Varying changes, such as colour changes, punctate depressions, longitudinal ridges, elevation and partial destruction of the nails were seen. Of the seven cases in which the nails were involved, the lesions were extensive in five and there was associated joint pains in three cases. This finding is in corroboration with others.

Joint pains and psoriasis coexisted in ten cases (33.33%) of this series. In two of these cases (6.66%) in which swelling of the small joints of the hands and feet and the knee joints was present, the radiological picture did not show any abnormality. The exact nature of the relationship between psoriasis and arthritis is still not understood.

It is interesting to note the occurrence of joint pains to be more frequent in cases with lesions of the nature of nummular and plaque varieties. In this series nine cases out of ten who complained of joint pains had mostly nummular lesions or plaques. The possibility of the extensiveness of the lesions in predisposing to arthritis cannot be entirely ruled out. The severity of the lesions may perhaps provoke some systemic enzymatic factor which perhaps predisposes to arthritis. While Garrod and Evans³ claim that the arthritis accompanying psoriasis is secondary to the skin lesions and may properly be labelled as arthropathy rather than arthritis, Hunt⁶ is of the view that psoriasis and rheumatoid arthritis share a common but unknown causation.

The high incidence of macrocytosis and dimorphic anaemia found in this series are suggestive of an associated undernutritional state. The high occurrence of psoriasis in B group individuals is attributed to the higher proportion of B group individuals in local population (Nandy)¹⁰. The increased frequency (16.66%) with which psoriasis occurred in AB group, as against the existence of four per cent of AB group in Nandy's series of normal controls in this area, seems to be coincidental. E. S. R. was raised only in those cases who had associated secondary infection, pulmonary tuberculosis or chronic dysentery etc. Whereas it was normal in uncomplicated cases of psoriasis.

SUMMARY

✓ Thirty cases of psoriasis have been extensively studied.

The clinical features of psoriasis have been reported in detail. Some unusual features were presented. It was most frequent between the ages of 15-45 years with two peak rises at pubertal and climacteric years.

A seasonal exacerbation during winter was noted. No correlation with occupation, social conditions, dietetic habits and intoxicants was found.

Its occurrence in other members of the family was found in ten per cent of the cases.

The commonest site of onset was the scalp.

Joint pains and arthritis were present in ten cases. Longer the duration of the disease, more extensive were the lesions and more frequently were the joint affections noted. Koebner's phenomenon was noticed in two cases.

Electrocardiograms were normal in all the cases.

Macrocytic dimorphic anemia noted in 63.33 per cent of the cases was thought to be due to nutritional deficiency.

No relation with blood groups and gastric analysis, when compared with controls of this part of the country, was noted.

E. S. R. was found to be raised in nineteen cases who had some other complications. ✓

ACKNOWLEDGEMENTS

We are grateful to Dr. Akbar Ali, M. R. C. P., D. C. H., Professor and Head of the Department of Medicine, M. G. M. Medical College, Indore, for his guidance. We are also thankful to Dr. D. P. Mukerji, M. D., Dr. S. M. Jain, M. D., and Dr. J. C. Gupta, for their help in carrying out this work. Our thanks are also due to Dr. R. Bhattacharya, Superintendent, M. Y. Hospital, Indore, for permission to undertake this study and publish the results.

REFERENCES

1. Aschner, D, Curth, H. O., & Gross.: Cited by Beerman et al.²
2. Beerman, H. and Pastras, T. : Amer. Jour. Med Sc. Vol. 241, No. 4, 1961.
3. Gans, O : Cited by Ingram, J. T.⁸
4. Garrod, A. and Evans, G. : Citee by Short et al.¹⁴
5. Grsyson, L. D. and Shair, S. M. : Ardh, Dermat. and Syph. 79.661, 19.9.
6. Hoede, K.: Cited by Beerman et al.²
7. Hunt, E. : Lancet, 2:351, 1933.
8. Ingram J. T. : Brit. Med. Jour. 2:591, 1953.
9. Kolmer, J. A ; Spaulding, E. H. & and Robinson, H. W. : Approved Laboratory Technic. Fifty Edition 1951.
10. Lahri. : Cited by Yawalkar, S. J.¹⁰
11. Nandy, D. R.: Thisis for M. D. (Medicine), Vikram University, Ujjuin, 1960.
12. Ormsby, O and Montgomery, H. : Diseases of Skin, 8th Ed. 1955. Lea and Febiger Philadelphia.
13. Sequira : Cited dy Yawalkar, S. J.¹⁶
14. Short, C. L., Bauer' W. and Reynolds, W. E. : Rheumatoid Aathritis, Publishers Haward University Press, Cambridge Massachutts, 1957.
15. Watuabee et al.: Cited by Beerman et al.²
16. Yawalkar, S. J. : Ind. Pract. 14.11, 1961.

IMPORTANT TO OUR READERS

We receive many enquiries from both old and new subscribers to supply them with back numbers of the INDIAN JOURNAL OF DERMATOLOGY AND VENEREOLOGY. We usually run out of stock due to heavy demands. Hence all our Subscribers and Patrons are kindly requested to intimate the non-receipt of this bi-monthly Journal to the Managing Editor by the fifteenth of the succeeding month of publication. INDIAN JOURNAL OF DERMATOLOGY AND VENEREOLOGY is published always in last week of February, April, June, August, October and December during the year.

PLEASE MENTION YOUR SUBSCRIPTION NUMBER IN ALL YOUR COMMUNICATIONS WITH US