PSORIASIS IN CHILDREN
(A prospective study)

T. R. BEDI

Summary

A prospective study of childhood psoriasis revealed an overall prevalence of 0.1% among the general skin diseases outpatients; 8.5% of the Indian psoriatics having onset of their disease during childhood. The peak age of onset was between 4 and 8 years and the mean age of onset in the males was lower than the females by approximately 2 years. Family history was positive in 12.5%. Plaque variety was the commonest and guttate lesions were observed in only 25% of the cases. Itching was a prominent feature of guttate lesions which were observed to be preceded in 70% of the patients by throat infection. The commonest sites were the legs, arms and the trunk. The face was involved more often than the scalp, the commonest site of affection in the adults. Nails were involved in more than 60% of the cases. The therapeutic response to coal tar treatment was satisfactory and the guttate lesions responded well to treatment with penicillin. The pustular and erythrodermic varieties and psoriatic arthritis were rare in the pediatric patients.

Apart from a few reports of occurrence of psoriasis at birth[1] or during infancy[2-5], it has been seen to affect predominantly patients in their 2nd to 4th decade. Marked variations have been observed in the peak age of onset of psoriasis in different geographical regions. In areas of high prevalence, the disease appears to start at a relatively younger age and consequently the incidence of psoriasis during childhood is higher in such places[6,7]. It is also alleged that the earlier the onset, the severer the disease[8,9]; so much so that one of the patients with congenital psoriasis reported by Lerner and Lerner[1] had developed crippling psoriatic arthritis before the age of 13 years. India being a low prevalence zone for psoriasis[10] it becomes pertinent to study the prevalence and clinical manifestation of childhood psoriasis among Indian patients.

Lecturer, Department of Dermatology, Postgraduate Institute of Medical Education & Research, Chandigarh-160012

Request for reprints :
Dr. Tilak R. Bedi
Consultant in Dermatology
30, UB Jawahar Nagar, Delhi 110007.

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Patients and Methods

Thirty two of 378 consecutive patients with psoriasis among approximately 32,000 skin outpatients over 3 years period belonging to pediatric age group were studied. A detailed history with special emphasis on the age of onset, itching, seasonal variation, preceding history of sore throat or any other infection and the family history of psoriasis were obtained. Cutaneous examination including the scalp, the nails and the mucosal surfaces was carried out in each patient. The type of lesions, the sites and the percentage body area affected were recorded. Any

associated skin or systemic disease in them was noted.

Observations and Results

The prevalence of childhood psoriasis in total psoriatics was 8.5% and among the general skin patients, 0.1%.

Clinical features:

Twenty were males and 12 females with male : female ratio of 1.6:1 which was no different from the overall male : female ratio observed among the skin outpatients during the period. The mean age of onset of the total sample was 7.19 ± 3.16 years. The mean onset age in females (8.58 ± 2.27) was higher by approximately 2 years than the males (6.35 ± 3.44). The peak age of onset was between 4 and 8 years; there were 5 males with onset before the age of 4 years including one male infant who started with plaque psoriasis at the age of 3 weeks. None of the female children had onset before the age of 4 years (Fig 1). The youngest age of onset was 3 weeks and the duration of the disease ranged from 3 weeks to 5 years.

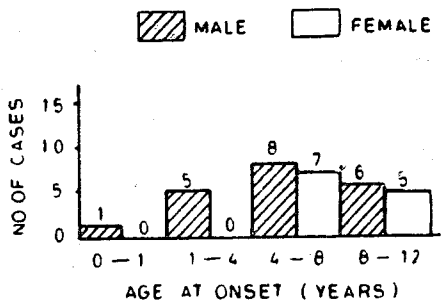

Fig. 1 Age at onset and sex distribution in psoriasis in children

Morphology and the site of lesions

Twenty (62.5%) patients had discoid plaques, 8 (25%) guttate lesions; 2 had both guttate and plaques, 1 linear lesion, 1 localized pustular lesions and in 2 the nails alone were affected. The arms and the legs were the commonest sites of affection. The other affected areas in descending order of frequency were the trunk, face, scalp, soles and the palms (Fig 2). Auspitz' sign was positive in all patients with guttate and plaque lesions and 4 patients showed characteristic Koebners phenomenon. The percentage body area involved varied from about 2 to 75%. The nails were affected in 22 (68%); the various nail abnormalities in descending order of frequency being pitting (20), thickening and discoloration of the nail plate (6 each), partial onycholysis (6) and subungual hyperkeratosis (3). In one patient, pustular skin lesions were seen to involve predominantly the paronychial margins. This female patient had marked nail changes, discoid plaques of psoriasis on the legs and complained of arthralgia pertaining to ankles, knees and the small joints of the hands. The sheep cell agglutination test was negative in her. Incidently, she also had patches of vitiligo on the trunk. None of the patients showed lesions involving the napkin area or the mucosal surfaces.

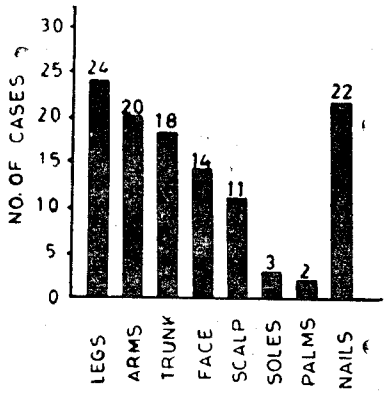

Fig. 2 Sites of affection in childhood psoriasis

Itching:

Sixteen (50%) patients complained of itching, severe in 7 (4 with guttate and 3 with plaque psoriasis), moderate in 5 (2 with guttate and 3 with plaque psoriasis) and mild in 4 cases (2 with guttate and 2 with plaques). The remaining 16 patients did not complain of itching.

Seasonal variation:

Assessment could be made in 28 cases; 4 had duration of psoriasis less than 6 months. More than half (57%) the patients showed no seasonal variation; 35% felt worsening in winter and improvement with onset of summer. Only 2 patients felt better in winter and worse in summer and one of them also observed definite worsening with the onset of monsoon.

Family history:

In 4 (12.5%) patients there was a positive family history of psoriasis, father being affected in all 4 instances. Of these 4 cases, 3 had plaque psoriasis and one guttate lesions.

Associated disease:

Four patients, all with guttate psoriasis gave history of preceding sore throat and in 2 of them the fresh crops of lesions could be related to subsequent episode of sore throat or common 'cold'. Throat swab culture in all 4 cases grew streptococcus hemolyticus and antistreptolysin titre was elevated (more than 200 I.U.) in 2 of them. The remaining patients denied history of preceding infection and these investigations were not carried out in them. Vitiligo was detected in 2 patients and alopecia areata on the scalp in other 2 patients. In one of the patients with associated vitiligo, the psoriatic plaques appeared within the depigmented areas as well as elsewhere on the body about a year after the onset of vitiligo. This patient was receiving daily 20 mg of 8-methoxypsoralen and sun exposure treatment for over 3 months prior to the development of psoriatic plaques.

Treatment:

Most patients were treated with conventional coal tar treatment comprising of tar ointment containing 2% salicylic acid and 25% liquor picis carb. in petrolatum base and showed satisfactory improvement. Four patients with guttate psoriasis in whom the history of preceding sore throat was present and throat swab showed streptococci, were treated with oral penicillins (Fenocin forte-May & Baker) 130 mg thrice daily. All of them showed remarkable improvement within a week's time but lesions often reappeared on stoppage of therapy after varying periods of 2–4 weeks. The guttate lesions in other patients however showed, in general, a tendency to spontaneously remit over 2-3 weeks even without treatment. One patient with guttate lesions and a positive family history of plaque psoriasis, gradually after 2 crops of guttate lesions over 3 months emerged with typical plaques of psoriasis all over the body which no more responded to oral antibiotics.

Discussion:

The prevalence of childhood psoriasis of 8.5% among the Indian psoriatics (0.1% of all skin diseases patients) is relatively low compared to 45% in Scandinavian countries[6,8] and 37% in the U.S.A.[11] This difference may partly be due to the fact the latter workers[6,8,11] have taken the pediatric group upto the age of 16 and 20 years respectively, while in the present study cases above the age of 14 years were not included.

Childhood psoriasis has certain peculiar clinical characteristics. In addition to the typical discoid plaque variety which is by far the commonest, guttate lesions are frequently seen. The guttate type is sometimes seen to progress over months and years to typical plaque variety. The manifestations of linear, pustular both localized and generalized, erythrodermic, napkin psoriasis and psoriatic arthritis are very uncommon. The male preponderance observed in psoriasis in India[10] in general is not seen in the pediatric age. Both sexes are equally affected. Whereas the mean age of onset in psoriasis in general is about 6 years higher in males (31.44 years) than in the females (25.73 years)[10],

the mean age of onset in male pediatric patients (6.35 ± 3.44) is lower than in the females (8.58 ± 2.27) by approximately 2 years. The peak age of onset in children is between 4 and 8 years. The familial incidence (12.5%) is about the same as in adults. Itching is a prominent feature especially in patients with guttate lesions. Only one third of the patients show traditionally quoted worsening in colder months. The scalp is not the commonest site of affection; instead the lesions are more often seen on the legs, the arms, the trunk and the face. Nail changes are frequent and often provide a clue to the diagnosis. At times, nail dystrophies may be the only manifestation of psoriasis. Vitiligo or alopecia areata may occasionally be present concomitantly with psoriasis.

The guttate variety of psoriasis is of particular interest. With only one fourth of the patients showing guttate lesions in this study, Michelson's[12] observation that acute guttate type is the commonest type of childhood psoriasis does not apply to Indian patients. In 50-60% of them the guttate lesions are either preceded or precipitated by an upper respiratory tract infection[7,13,14]. The relation of guttate psoriasis to acute tonsillitis was recognized as early as 1916 by Winfield[15] and recently Nyfors et al[16] have shown good therapeutic results after tonsillectomy independent of prior history of tonsillitis or sore throat.

Acute guttate psoriasis usually manifests in crops as small round to oval 'tear drop' scaly lesions evenly distributed over the extremities and the trunk. The involvement of the face is rather frequent in acute attacks. The lesions show dramatic response to antibiotic therapy although the lesions tend to remit spontaneously on their own within 4 weeks. The fresh crops, however, appear more frequently if antibiotics are not instituted. The course of plaque psoriasis in children is somewhat similar and as unpredictable as in adults. The therapeutic response to coal tar treatment is equally satisfactory in plaque variety. The use of corticosteroids and cytostatic agents in children is best avoided.

References

1. Lerner MR and Lerner AB: Congenital psoriasis, Arch Derm, 105: 598, 1972.
2. Kaposi M: Pathology and treatment of diseases of the skin. W. Wood, New York 1894, p 307.
3. Crocker HR: Diseases of the skin. Blackiston Son & Co. Philadelphia, 1911, p 364.
4. Davies H: Psoriasis in an infant. Proc Roy Soc Med 15: 29, 1922.
5. Bedi TR and Kaur S: Infantile psoriasis. Ind J Derm Vener Lepr (In Press).
6. Romanus T: Psoriasis from a prognostic and heredity point of view. Acta Derm Vener (Stockh) 26: (Supple 12) 1, 1945.
7. Nyfors A and Lemholt K: Psoriasis in children. Brit J Derm 92: 437, 1975.
8. Lomholt G: Psoriasis: Prevalence, spontaneous course and genetics GEC. Gad Copenhagen 1963, p 78.
9. Watson W and Farber EM: Psoriasis in childhood. Pediat Clin North Amer 18: 875, 1971.
10. Bedi TR: Psoriasis in North India. Dermatologica (Basel) 155: 310, 1977.
11. Farber EM, Bright RD, Nall ML: Psoriasis. A questionnaire survey of 2144 patients Arch Derm 98: 248, 1968.
12. Michelson HE: The unusual in proriasis. Arch Derm Syph 78: 9, 1958.
13. Norlinds R: The significance of infections in the origination of psoriasis. Acta-Rheum Scand 1: 135, 1953.
14. Asboe-Hansen G: Psoriasis in childhood Proc Internat Symp Stanford Univ Press, Stanford, 1971. p 53.
15. Winfield JM: Psoriasis as a sequel to acute inflammation of the tonsils. J Cutan Dis 34: 441, 1916.
16. Nyfors A, Rasmussen PA, Lemholt K, Erikson B: Improvement of refractory psoriasis vulgaris after tonsillectomy. Dermatologica 151: 216, 1975.