

Clinico-epidemiological study of childhood psoriasis

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Article Info

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Abstract

The clinico-epidemiological data of 276 childhood psoriasis were studied. The mean age was 7.64 years (range 1 day to 15 years). There was no complain of any discomfort in 198 cases. Itching was present in 67 cases and burning in 11 cases. Plaque psoriasis was the most common type (68.8%) followed by guttate (18.8%). Erythrodermic and pustular psoriasis were found in 2.2% and 1.5% cases. Scalp was the most frequently affected site (75.36%) followed by extensors of extremities (41.3%), trunk (37.7%), palm and/or sole (13.0%) and diaper area (11.6%). Nail involvement was found only in 8%, joint was affected in 3.6% and only 2.2% children with psoriasis were erythrodermic. In Bangladeshi children with psoriasis, plaque is the most common type and scalp is the mostly affect site. Nail and joint involvement is less common. Pustular and erythrodermic psoriasis is rare.

Introduction

Psoriasis, a chronic inflammatory skin disease causing significant discomfort, disability and disfigurement deserves special attention if it affects children. Childhood psoriasis severely lowers quality of life and interfere its physical and psychological development. Psoriasis is a global health problem affecting 0.09 to 11.4 percent of world population but accurate prevalence of childhood psoriasis has yet to know.¹⁻²

At least one third of psoriatic patients develop their disease before their sixteen years of age and one third of psoriatic patients who actually develop their disease at childhood are not diagnosed until their adulthood.^{3,4} Although diagnosis of psoriasis is mostly straight cut and clinical but sometimes it is much difficult in children due to its atypical distribution and morphology which changes over time. This cross sectional observational type study was conducted to see the pattern of clinical presentation of childhood psoriasis in Bangladesh.

Materials and Methods

This cross sectional observational type study was conducted in the Department of Dermatology and Venereology, Bangabandhu Sheikh Mujib medical university and Dhaka Medical College, Dhaka, Bangladesh from January 2011 to June 2016. Psoriasis in children was

diagnosed mostly clinically and histopathology of skin was done in doubtful cases. Different demographical and clinical variables including age, sex, age of onset, residence, complains, presence of itch, seasonal variation, affected family member, type of psoriasis, site and severity were recorded directly from all children with psoriasis. Severity of psoriasis was assessed as mild, moderate and severe. Patient's palm represented 1% of total body surface area (BSA); <5% was labeled as mild; 5-10% moderate and >10% was severe.⁵

Results

A total 276 children with psoriasis was enrolled in the study mean age of 7.64 years with a range 1 day to 15 years. One case of rare congenital psoriasis was found. Among them 142 (51.5%) was male and 134 (48.6%) were female with male: female 1.06:1. History of affected first degree relatives was found in 14 (5.1%) cases. No complain of any discomfort was given by 198 (71.7%), itching and burning sensation were complained by 67 (24.3%) and 11 (4.0%) respectively. Seasonal variation was noticed by 82 (29.7%) cases, 58 (21.0%) had winter exacerbation and 24 (8.7%) had exacerbation in summer or rainy season [Table I].

Plaque psoriasis was the most common type (68.8%) followed by guttate (18.8%), psoriasis eczema overlap (5.1%), erythrodermic (2.2%),



Table I		Table II		Table III	
Parameters of patients		Type and severity of psoriasis		Site of involvement of psoriasis	
	n	Type	n		n
Age (Year)		Plaque	190	Single site	109
<1	14	Guttate	52	Multiple sites	167
1-5	70	Psoriasis eczema overlap	14	Scalp	208
6-9	108	Erythrodermic	6	Extensor of extremities	114
10-15	84	Acropustulosis	6	Trunk	104
Mean age (Year)	7.6	Pustular	4	Palm and/or sole	36
Gender		Linear	2	Diaper area	32
Male	142	Flexural	2	Post auricular region	22
Female	134	Severity		Face only	14
Affected first degree relatives	14	Mild	117	Chelitis	4
Complain		Moderate	110	Nail	22
No complain	198	Severe	49	Pitting	12
Itching	67	acropustulosis (2.2%), pustular (1.5%), linear (0.7%) and flexural (0.7%). Out of 276 patients, 117 (42.4%) was mild, 110 (39.9%) moderate and 49 (17.8%) was severe [Table II].		Discoloration	8
Burnig	11			Thickening of nail plate	6
Seasonal variation				Oil spots	6
Seasonal exacerbation	82			Joint	10
Winter exacerbation	58				
Summer or rainy season exacerbation	24				

In 109 (39.5%) cases only one site was involved and in 167 (60.5%) cases multiple sites were involved. Scalp was involved in 208 (75.4%) cases followed by extensors of extremities (41.3%), trunk (37.7%), palm and/or sole (13.1%) and diaper area (11.6%). Other less common sites were post auricular region 22(8.0%), face only 14(5.1%), chelitis 4(1.5%), nail 22 (8.0%), and Joint 10(3.6%) [Table III].

Discussion

The exact prevalence psoriasis in Bangladesh is not known and previous study conducted over Bangladeshi children with psoriasis is not available. Though the prevalence of psoriasis among children is lower than adult, childhood psoriasis is a challenging entity considering its variable and atypical presentation.⁶⁻⁷ In this study we analyzed 276 cases of pediatric psoriasis age ranging from one day to fifteen years with a mean 7.6 years and the median age was 9 years. In previous studies the mean age of onset varied from 8 to 11 years.^{4,8-10} The first onset of psoriasis varies in different population of world; in previous study it was found that the onset of disease in girls is earlier than boys.¹¹ But some studies found equal sex distribution.¹²⁻¹⁴ Among our children with psoriasis 51.5% were male and 48.5% female.

The risk of getting affected with psoriasis if no

sibling, one sibling or both siblings affected are 0.2%, 0.5% and 0.8%, respectively.¹⁵ Some studies found higher (up to 89%) family association with childhood psoriasis.^{12,16} But here only 5.1% of children with psoriasis have family members with psoriasis which is consistent with previous Indian studies.¹⁷ Seasonal variation of disease was noticed by 29.7% cases, among them 21.0% gave history of winter exacerbation and 8.7% exacerbation in summer or rainy season. In a Chinese study seasonal variation was found 41.6% children with psoriasis mostly winter exacerbation.¹³

In the sixty-seventh world health assembly in 2014 World Health Organization (WHO) recognized that too many people suffer needless with psoriasis due to delayed or incorrect diagnosis, inadequate treatment options and insufficient access to health care.¹⁸ This statement is more appropriate for childhood psoriasis considering its atypical presentation, limited area of involvement and various kinds of disease may be presented at different age of a particular person.¹⁹ Presence of itching is less common among Asian children comparing with European (14.2% Vs. 80.0%)²⁰. In our series children were asymptomatic in 71.74%, itching was present in 24.28% children and 3.99% had complaints of burning.

Most common type of psoriasis in children found in previous studies was plaque type.^{12,14,19-23} In the current study 68.8% children had plaque type. The development of plaque psoriasis in children is often preceded by guttate psoriasis and it is second most common psoriasis.^{13,23} Mercy et al. suggested that the risk of severe disease is higher if psoriasis started as guttate psoriasis which persisted.²⁴ In our study, 18.8% children had Guttate psoriasis. One Danish study found guttate psoriasis as the most common variant.²⁵

Other less common types were psoriasis eczema overlap (5.1%), erythrodermic (2.2%), acropustulosis (2.2%), pustular 1.5%, linear (0.7%) and flexural (0.7%). Erythrodermic and pustular forms of psoriasis, are considered unusual in children. In past studies pustular psoriasis is seen in only 1.0-10.9% of children with psoriasis.^{13,26} Several children in different studies showed an overlap with "eczema like" lesions, excoriated, not well-circumscribed plaques without typical Auspitz's sign or psoriatic scaling that is called "psoriasis-eczema overlap".²⁷ In this study 5.1% patients were psoriasis eczema overlap.

In most previous studies among different ethnic groups scalp is the most frequently involved site for childhood psoriasis.^{14,21,24,25,28} It is difficult to establish a correct diagnosis when psoriasis appears in a child with a single atypical eruption. In our children with psoriasis 75.4% presented with scalp lesions followed by extensors of extremities (41.3%) and trunk (37.7%). In many previous Asian and

European the scalp is the most common site of involvement.^{20, 24, 26} In our study, only 5.1% had only facial involvement; but a large number of children (18-46%) with facial lesions were observed in previous observations.^{25, 28} Morris et al. reported that 26% of patients had a history of psoriasis diaper rash, but the diagnosis of true psoriasis in these infants remains controversial.¹⁴ In this series, 11.6% had diaper psoriasis, lower frequency of diaper psoriasis may be due to less use of diaper among Bangladeshi children. Nail involvement was found only in 8% of our cases whereas in previous studies nail involvement was found up to 47.2%.^{24, 20, 29} In one Australian study nail was involved in only 0.6% children.¹⁴ One south Indian study found nail involvement to be the sole presenting feature in 23% of children.²² Pitting was the most common nail sign on nail like other previous studies.^{20, 22, 24, 29} Chelitis and mucosal involvement in childhood psoriasis is very rare. We got 4 (1.5%) patients with chelitis with psoriasis.

Here, 10 (3.6%) children with psoriasis also developed arthritis. In a predominantly plaque or guttate psoriasis population, the prevalence of psoriatic arthritis was reported to be between 0.7% and 10.5%.^{9-14, 17, 24} In a review of previous reports on childhood psoriasis the range of frequencies of erythroderma among children with psoriasis was 0.1% to 5.8%.³⁰ In our study, six (2.2%) children with psoriasis were erythrodermic.

Conclusion

In Bangladeshi children like most other Asian studies, plaque is the most common type and scalp is the mostly affect site for childhood psoriasis. Though in many previous studies found girls are more affected then boys here both are mostly equally affected. Nail and joint involvement are less common. Pustular and erythrodermic psoriasis are rare.

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