

A Hospital-Based Study on the Pattern of Papulosquamous Disorders in Children in a Tertiary Care Center of Northeast India

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Abstract: Papulosquamous disorders are characterized by scaly papules and plaques and they form quite a common group amongst the wide spectrum of skin diseases in children. The present observational study was conducted in the Department of Dermatology, Assam Medical College & Hospital, Dibrugarh during a period of 12 months from June 2014 to May 2015, with an objective to study the magnitude and pattern of papulosquamous disorders in children. All children upto 13 years presenting with papulosquamous disorders in the Dermatology out-patient Department of Assam Medical College & Hospital, Dibrugarh, for the period of one year were taken as study subjects. A detailed history was taken and clinical evaluation was done. Relevant investigations were carried out whenever necessary and the findings were recorded in a proforma for analysis and interpretation of data. Our study showed the overall occurrence of pediatric dermatoses to be 9.51% while papulosquamous disorders constituted 4.92% of the pediatric dermatoses. Male cases outnumbered females with a ratio of 1.1:1. Seborrheic dermatitis was found to be the most common papulosquamous disorder in children followed by psoriasis. The incidence was seen to be highest in the spring season (32.04%) followed by summer (28.16%), autumn (24.27%) and winter (15.53%).

Keywords: Children, papulosquamous disorders, pediatric dermatoses, psoriasis, seborrheic dermatitis

I. Introduction

Skin diseases are a major health problem in the pediatric age group and are associated with significant morbidity and psychological impact. Dermatoses in children are more influenced by socioeconomic status, climatic exposure, dietary habits and external environment as compared to adults. Most of the cutaneous diseases which result from intrinsic genetic abnormalities also have onset in the pediatric age group. The prevalence of skin diseases amongst children in various parts of India is found to range from 8.7% to 35% in various school-based surveys [1].

Papulosquamous disorders are characterized by scaly papules and plaques and they form quite a common group amongst the wide spectrum of skin diseases in children. They are a heterogeneous group of disorders whose etiology is primarily unknown. These disorders account for a large number of patients in both pediatric dermatology and the pediatric primary care practice. This group of disorders in children can present with a vast array of clinical findings. They often mimic each other and may sometimes present with the atypical variants. Papulosquamous disorders in children require a separate view from adult dermatoses as there are important differences in clinical presentation, treatment and prognosis. There are various epidemiological studies across the world including India to study the pattern of pediatric dermatoses and also studies have been done on individual papulosquamous disorders. However, there is a dearth of studies on the pattern of papulosquamous disorders in children. A study on the epidemiology of papulosquamous disorders in children will help dermatologists to understand better the different types of papulosquamous disorders in children and to be able to manage them appropriately.

Apart from the mentioned major entities in TABLE 1, many other dermatological conditions may become papulosquamous at some time during their course. Many of these conditions are classified under different groups, based on other important characteristics, such as dermatophytoses, treponemal infections, nutritional deficiencies, photosensitive dermatoses, pigmented purpuras and drug eruptions [2]. In children, sarcoidosis can be an exquisitely papulosquamous disease. It is therefore important to consider all possible dermatoses in the differential diagnosis of a papulosquamous eruption.

Table 1: List of papulosquamous disorders [2]

Sl No.	Papulosquamous disorders
1.	Psoriasis
2.	Parapsoriasis <ul style="list-style-type: none">• Large-plaque parapsoriasis• Small-plaque parapsoriasis• Pityriasislichenoides

	a. Pityriasislichenoides et varioliformisacuta b. Pityriasislichenoideschronica
3.	Lichen Planus
4.	Lichen Nitidus
5.	Lichen Striatus
6.	PityriasisRosea
7.	PityriasisRubraPilaris
8.	Seborrheic Dermatitis
9.	Gianotti-Crosti Syndrome

II. Objectives

To study the magnitude and pattern of papulosquamous disorders in children.

III. Materials and Methods

The present observational study was conducted in the Department of Dermatology, Assam Medical College & Hospital, Dibrugarh during a period of 12 months from June 2014 to May 2015. All children upto 13 years presenting with papulosquamous disorders in the Dermatology out-patient Department of Assam Medical College & Hospital, Dibrugarh, for the period of one year were taken as study subjects. A detailed history was taken as well as general, systemic and cutaneous examination was done. Relevant investigations were carried out whenever necessary. The findings were recorded in a proforma for analysis and interpretation of data.

IV. Results

Out of the total number of 22,020 cases attending the Dermatology out-patient department of Assam Medical College & Hospital, Dibrugarh from June 2014 to May 2015, 2094 cases were pediatric cases. Thus, the overall occurrence of pediatric dermatoses in the present study is 9.51%. Out of the 2094 total pediatric patients, 103 cases had papulosquamous disorders, thus constituting 4.92% of the pediatric dermatoses.

The maximum number of pediatric patients with papulosquamous disorders were seen in the age group of 0-4 years (51; 49.51%), followed by cases in 9-13 years age group (33; 32.04%) which was followed by cases in 5-8 years age group (19; 18.45%). The youngest patient was 18 days old and the oldest 13 years. The mean age of onset was 5.71 years.

Male cases (54; 52.43%) outnumbered female cases (49; 47.57%) in our study with a male to female ratio of 1.1:1. The age and sex distribution of papulosquamous disorders in children is shown in TABLE 2.

Table 2: Age and sex distribution

Age group (in years)	Male		Female		Total	
	N	%	N	%	N	%
0-4	32	31.07	19	18.45	51	49.51
5-8	9	8.74	10	9.71	19	18.45
9-13	13	12.62	20	19.42	33	32.04
Total	54	52.43	49	47.57	103	100

Seborrheic dermatitis (46; 44.66%) was the most common papulosquamous disorder followed by psoriasis (26; 25.24%), pityriasisrosea (15; 14.56%), lichenstriatus (10; 9.71%), lichen planus (2; 1.94%), pityriasislichenoideschronica (2; 1.94%), pityriasisrubrapilaris (1; 0.97%) and lichen nitidus (1; 0.97%). The pattern of various papulosquamous disorders in children is shown in TABLE 3.

Table 3: Pattern of various papulosquamous disorders

Disease	Male		Female		Total	
	N	%	N	%	N	%
Seborrheic dermatitis	33	32.04	13	12.62	46	44.66
Psoriasis	7	6.79	19	18.45	26	25.24
Pityriasisrosea	8	7.77	7	6.79	15	14.56
Lichen striatus	2	1.94	8	7.77	10	9.71
Lichen planus	2	1.94	0	0.00	2	1.94

Pityriasislichenoideschronica	0	0.00	2	1.94	2	1.94
Pityriasisrubrapilaris	1	0.97	0	0.00	1	0.97
Lichen nitidus	1	0.97	0	0.00	1	0.97
Total	54	52.43	49	47.57	103	100

Children with papulosquamous disorders visited throughout the year. The incidence was highest in the spring season (33; 32.04%) followed by summer (29; 28.16%), autumn (25; 24.27%) and winter (16; 15.53%). Highest incidence of seborrheic dermatitis was seen in the spring and summer months. Pityriasisrosea showed an increased incidence in the autumn and winter months. Highest number of cases of psoriasis was recorded in the spring and autumn months. Most cases were reported in the spring and summer months for lichen striatus. The season-wise distribution of various papulosquamous disorders in children is shown in TABLE 4.

Table 4: Season-wise distribution of various papulosquamous disorders

Disease	Spring (Mar-Apr)	Summer (May-Aug)	Autumn (Sept-Nov)	Winter (Dec-Feb)	Total
Seborrheic dermatitis	15	14	11	6	46
Psoriasis	9	5	7	5	26
Pityriasisrosea	2	4	5	4	15
Lichen striatus	4	4	2	0	10
Lichen planus	2	0	0	0	2
Pityriasislichenoideschronica	0	1	0	1	2
Pityriasisrubrapilaris	0	1	0	0	1
Lichen nitidus	1	0	0	0	1
Total	33	29	25	16	103
Percentage (%)	32.04	28.16	24.27	15.53	100

V. Discussion

Papulosquamous disorders constituted 2.5% in a study by Vetrichevvel et al [3] and 6.9% of all pediatric dermatoses in a study by Gul et al [4]. In a study by Balai et al [5], papulosquamous disorders constituted 1.66% of the pediatric dermatoses while Elfaituri [6] in his study reported 2.3% and Hassan et al [7] reported 1.8%. In our study papulosquamous disorders constituted 4.92% of the pediatric dermatoses.

Vetrichevvel et al [3], in their study, found pityriasisrosea (32.4%) as the commonest papulosquamous disorder followed by lichen planus (14.8%), seborrheic dermatitis (11.1%), psoriasis (11.1%), pityriasisrubrapilaris (10.2%), lichen nitidus (9.2%), lichen striatus (6.4%), pityriasislichenoideschronica (2.7%). While in our study, seborrheic dermatitis (44.66%) was the most common papulosquamous disorder followed by psoriasis (25.24%), pityriasisrosea (14.56%), lichen striatus (9.71%), lichen planus (1.94%), pityriasislichenoideschronica (1.94%), pityriasisrubrapilaris (0.97%) and lichen nitidus (0.97%). The high incidence of seborrheic dermatitis is probably due to proportionately higher number of cases recorded in the 0-4 years age group in our study.

In our study, males with papulosquamous disorders (54; 52.43%) outnumbered females (49; 47.57%) which is similar to the study by Vetrichevvel et al [3] where males (57.5%) outnumbered females (42.5%) and also to the study by Balai et al [5] where males (52.94%) again outnumbered females (47.06%).

Considering the various papulosquamous disorders in our study, it was seen that male cases of seborrheic dermatitis (33; 71.74%) outnumbered female cases (13; 28.26%) similar to the study by Schwartz et al [8]. It is commonly found that girls with psoriasis out-number boys (2:1) [9]. In our study female cases of psoriasis (19; 73.08%) outnumbered male cases (7; 26.92%) with a ratio of 2.71:1 which is almost consistent with studies by Nyfors et al [10], Morris et al [11] and Wu et al [12]. Whereas, Kumar et al [13] reported a slight male preponderance. Males with pityriasisrosea (8; 53.33%) outnumbered females (7; 46.67%); male to female ratio being 1.14:1 which is similar to the study by Gündüz et al (1.1:1.0) [14] and Sharma et al (1.5:1) [15]. A female predominance was recorded for lichen striatus with male to female ratio of 1:4 which is similar to the study by Taniguchi et al (1:3) [16], Patrizi et al (0.5:1) [17]. Hauber et al [18] reported a male predominance with male to female ratio of 3:1. Peramiquel et al [19] reported an equal incidence of lichen striatus in male and female children.

The incidence of papulosquamous disorders in children was highest in the spring season (33; 32.04%) followed by summer (29; 28.16%), autumn (25; 24.27%) and winter (16; 15.53%) in our study. Vetrichevvel et al [3] reported that pityriasisrosea occurred most commonly in winter months. Gündüz et al [13] also observed an increased incidence during winter 35% and autumn 23%. Our study showed an increased incidence of

pityriasisrosea in the autumn 33.33% and winter 26.67% months; similar to the above mentioned studies. Maximum occurrence of lichen striatus was noted in the spring and summer months similar to the study by Sittart et al [20] which reported a greater occurrence in the months of September and March which corresponds to spring and summer. There was no difference in the incidence of lichen striatus in regard to the season of the year in a study by Taniguchi et al [16].



Fig 1: Seborrheic dermatitis**Fig 2: Psoriasis**



Fig 3: PityriasisRosea**Fig 4: Lichen Planus**



Fig 5:

PityriasisLichenoidesChronica**Fig 6:**
PityriasisRubraPilaris



Fig 7: Lichen Striatus **Fig 8: Lichen Nitidus**

VI. Conclusion

Our present study reveals the occurrence of various papulosquamous disorders in the pediatric age group amongst the children visiting the Dermatology out-patient department. It revealed the most common age groups along with the sex scenario, the seasonal incidence and the frequency of various papulosquamous disorders in the pediatric age group. Seborrheic dermatitis was found to be the most common papulosquamous disorder in children followed by psoriasis, pityriasis rosea and lichen striatus. Childhood lichen planus was found to be rare in this part of the country thus indicating an environmental or genetic influence. Longer duration studies from various parts of the world are required for better understanding of the papulosquamous disorders in children and to note the geographical and environmental influences as well as differences in clinical findings from the adult onset form.

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