

Pediatric Psoriasis: A Closer View on Clinical Presentations

Abstract

Introduction: Psoriasis in children is not uncommon. The study is an attempt to shed light on its clinical presentations among children in Basrah, Iraq. **Materials and Methods:** A cross-sectional observational clinical study of 416 children with psoriasis was conducted in the department of Dermatology of Basrah teaching hospital and two private clinics, Basrah, Iraq, from November 2018 to December 2021. Detailed history and a complete clinical examination were done. In cases of doubt, skin biopsy was performed. **Results:** Four hundred and sixteen children with psoriasis were enrolled in this study, their age ranged from 11 months to 12 years, 236 of them were females, and the remaining 180 were males. Psoriasis of the scalp, eyelid, blepharitis, follicular, and guttate were the most common types reported in 61.8%, 11.05%, 10.3%, and 9.8%, respectively. Plaque psoriasis was reported in only 6.2% of the patients. Atypical presentations in shape and site were reported in 122 (29.3%) of the patients. Infections, emotional stress, and environmental factors were the most common precipitating causes. **Conclusions:** Psoriasis is not uncommon among children; the presentations may be atypical regarding clinical features, site affected, symptoms, family history, and gender, so that it should be considered in any child with chronic recurrent erythematous scaly skin lesions, especially when they are recurrent with poor response to treatment.

Keywords: Clinical, pediatrics, presentations, psoriasis

Introduction

Psoriasis is a common, chronic, recurrent, immunologically-mediated papulosquamous skin disease, occurring in a genetically predisposed individual modified by environmental factors.^[1] Affecting 1%–2% of general population, 30% of them are children^[2] although the cumulative prevalence of psoriasis in children under the age of 18 years is reported to be 0.71%.^[3] Pediatric psoriasis differs from that of adults in many aspects, including criteria, site affected, symptoms, family history, response to treatment, and the outcome of the disease. Plaque psoriasis, which is the most common type in adult occurring less frequently in children.^[4] Guttate, scalp, napkin, face, and inverse types seem to be more common in children than adult.^[4] Psoriatic lesions are thinner, more superficial, and less scaly than that of adult.^[4] Psoriasis at certain sites (face, napkin area, eyelids, and toe cleft) that are rarely involved in adults are more frequently reported in children.^[3] The prognosis of psoriasis in children is reported to be better than that of adults.^[3] The response to treatment appeared to be better in children

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in comparison with adults.^[3] The severe form of psoriasis is less frequent.^[3] Family history is more frequent among patients with pediatric psoriasis.^[3] No evidence reported that early-onset psoriasis in children predicts severe disease in adult life.^[3] This study was designed to highlight the clinical presentations of childhood psoriasis in our locality.

Materials and Methods

Study design

A cross-sectional observational clinical study that was conducted in the dermatology department of Basrah teaching hospital and two private clinics, Basrah, Iraq, from November 2018 to December 2021, where a total of 416 children with psoriasis were recruited. Ethical approval was obtained according to the ethical committee order numbered 315 on September 25, 2018, allowing the researchers to start the study work. Written consents were also taken from parents.

Inclusion criteria

All children with psoriasis from infancy till the age of 12 years were included in this study.

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Data collection and clinical evaluation

All patients were interviewed where detailed history, including the age, onset, duration, symptoms, triggering factors, and family history, was taken, and a full clinical examination regarding the criteria of the lesions and site affected was done. The diagnosis of psoriasis depended mainly on the clinical features of the disease. In addition, skin biopsy was performed in doubtful cases, and histopathology confirmed cases were included in the study. Photos were taken using the mobile camera of Samsung Note 10 plus.

Statistical analysis

Data were analyzed using SPSS software version 26 (IBM Armonk, New York, USA). Qualitative variables were summarized as numbers (N) and frequencies (%), and quantitative variables were summarized as mean and standard deviation ($M \pm SD$). Chi-square test was used.

Results

The study included 416 children with psoriasis; their ages ranged from 11 months to 12-years with a mean of 6.8 ± 1.5 years. Two hundred and thirty-six were females, and 180 were males (F/M 1.3/1). About 272 (65.4%) of them were 7–12-year-old.

The disease was asymptomatic in 84.6% of the patients, and the remaining 15.4% were either complained from itching or burning sensation. Family history was positive in 68.3% of the patients, as shown in Table 1. As shown in Table 2, the study reported that scalp psoriasis, psoriasis manifesting as chronic recurrent blepharitis, follicular, guttate, flexural psoriasis with the involvement of napkin area, and palmoplantar psoriasis were the most common presentations among the studied group as it was reported in 16.8%, 11.05%, 10.3%, 9.8%, 8.8%, and 7.9%, respectively [Figures 1-3]. Plaque psoriasis, which is the most common type in the adults, was reported only in 6.2% of the cases. Facial involvement which is rarely seen in adults was encountered in 6.5% of the patients. Severe types of psoriasis-like pustular and erythrodermic were observed to be less common in children as they were reported only in 5% and 1.7%, respectively. Flexural and napkin psoriasis were reported in 8.8% of the cases and was commonly seen among infants. It was observed that psoriatic lesions particularly those at atypical sites, such as face, eyelids, toe cleft, and napkin area were more superficial, thinner, and less scaly than the classical adult psoriatic lesions as shown in Figures 4-7 respectively. The well-demarcated characteristic border was less evident, in addition, sometimes, especially in infants and younger children, lesions are macerated. Moreover, the study reported that lesions in older children were relatively similar to that of adults. Candle and Auspitz signs were positive in all patients. In the present study, the parents of the included children claimed that the precipitating and aggravating factors of psoriasis were infection in all its

types and fever, followed by emotional stress in 27.9% and 15.2%, respectively, as shown in Table 3.

Discussion

Psoriasis in children is not uncommon, as it affects one-third of patients with psoriasis worldwide. The

Table 1: Demographical features of psoriatic children

Variables	n (%)
Gender	
Female	236 (56.7)
Male	180 (43.3)
Age (years)	
<2	25 (6.01)
2-6	144 (34.6)
7-12	272 (65.4)
Years \pm SD	6.8 \pm 1.5
Symptoms	
Symptomatic	64 (15.4)
Asymptomatic	352 (84.6)
Family history	
Positive	284 (68.3)
Negative	132 (31.7)

SD – Standard deviation

Table 2: Types of psoriasis among psoriatic children

Types of psoriasis	n (%)
Scalp psoriasis	70 (16.8)
Chronic blepharitis	46 (11.05)
Follicular	43 (10.3)
Guttate	41 (9.8)
Flexural and napkin	37 (8.8)
Palmoplantar	33 (7.9)
Face	27 (6.5)
Plaque	26 (6.2)
Circinate	23 (5.5)
Pustular	21 (5.04)
Angular stomatitis	12 (2.8)
Auricular and post auricular	11 (2.6)
Acrodermatitis continua	9 (2.2)
Nail psoriasis	7 (1.7)
Erythrodermic psoriasis	7 (1.7)
Toe cleft intertrigo	3 (0.8)
Total	416 (100)

Table 3: The aggravating and precipitating factors among psoriatic children

Factors	n (%)
No cause	204 (49.1)
Infection and fever	116 (27.9)
Emotional stress	64 (15.2)
Environmental factors	20 (4.8)
Teething	12 (2.9)
Total	416 (100)



Figure 1: Scalp psoriasis



Figure 3: Follicular psoriasis



Figure 5: Face psoriasis



Figure 2: Chronic blepharitis

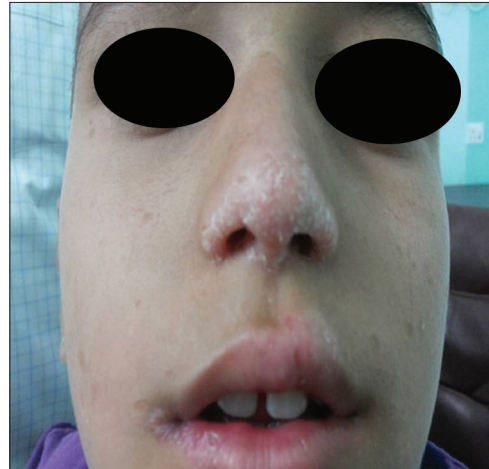


Figure 4: Face psoriasis



Figure 6: Superficial psoriasis

incidence of pediatric psoriasis was reported to be doubled from 1970 to 2000.^[4] This study reported a predominance of females with a female to male ratio of 1.3–1, which is similar to that reported by other studies.^[5] This finding is not only attributed to females paying more attention to

their skin but possibly due to the relationship between sex and development of the disease.^[5] In addition, psoriasis was observed to occur earlier in females, and the prevalence was more as compared to males.^[5] The disease was asymptomatic in 84.6% among the studied group, and the consultation was sought by the parents for the chronic nature of the lesions. Family history was reported in 68.3% of the studied group, which is nearly similar to that reported in Australia, where family history was positive in 71% of the cases, although it is higher than that reported by an American multicentric study.^[6] The higher positive family history is possibly resulting from more consanguineous marriages in our locality. Regarding triggering factors of psoriasis among the studied patients, 49.1% of the patients or their parents denied any aggravating factors,



Figure 7: Napkin psoriasis

while 27.9% claimed that infections, particularly that of upper respiratory tracts with fever, were the main trigger. This finding differs from that reported by other studies which found that most cases were triggered by emotional stress which is reported as the secondmost common trigger in the present work.^[7] We think that psoriasis is a multifactorial disease where many factors play a role in its pathogenesis, but the prevalence of triggering factors may differ from one country to other. It is worthy to mention that psoriatic lesions, particularly those located at atypical sites, were less demarcated, superficial, and less scaly as compared with that of adults, and in addition, in infants with napkin psoriasis, some lesions were macerated. These findings were similarly reported by other studies.^[4-7] The study showed that scalp psoriasis, psoriasis manifesting as chronic blepharitis, and follicular psoriasis are the most common types reported in 38.2% of the cases which can be the only presenting features or in association with psoriasis elsewhere. The isolated presentations can cause diagnostic difficulty. The same findings, with less frequency, have been reported by other studies.^[2] The guttate type, which has been mentioned in literature as more common in children than adult, was reported in 9.8% only. Sites that are reported to be less commonly involved in adults such as flexures including the napkin area, face, mouth angles, and toe cleft were shown by the present work to be commonly involved among children with psoriasis. This observation was also highlighted by some other similar studies.^[4] It is worthy to mention that napkin psoriasis was commonly seen among infants and usually seen to run a chronic recurrent course with poor response to conventional therapy. In contrary to the other studies reporting plaque psoriasis as the most common mode of presentation of psoriasis in children, the present study reported this type with less frequency in 6.2% of the cases. This variation was probably attributable to the range of age included in the study (the upper limit of age included in this study was 12 years vs. 18 years in others). Since children grow older, psoriasis simulates the presentation of adults. Eliciting positive Candle and Auspitz signs, which are characteristic signs of the disease, support the diagnosis of psoriasis particularly when it is atypical or involves unusual sites. In addition, the positive test excluded, to a large extent psoriasiform rash that may mimic pediatric psoriasis. The rate of relapse was not

reported since this study was primarily a study to observe the clinical patterns of psoriasis in the pediatric age group and this is a limitation of the study. Another limitation was that dermoscopy was not used and the disease is diagnosed clinically and confirmed in doubtful cases by histopathological examinations.

Conclusions

Pediatric psoriasis is not uncommon in daily clinical practice, and presentation may be atypical regarding its clinical features, clinical types, and site affected. Scalp, face, and flexural psoriasis are the most common types and sites in pediatric psoriasis. Infections and emotional stress are the major triggers.

Further studies with larger sizes and longer periods are recommended to study the course and outcome of the disease in comparison with that of adults.

Further study using dermoscopy to confirm the diagnosis is also recommended.

Declaration of consent

The authors certify that they have obtained all appropriate consent forms, duly signed by the parent(s) of the patient. In the form the parent(s) has/have given his/her/their consent for the images and other clinical information of their child to be reported in the journal. The parents understand that the names and initials of their child will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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