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Clinical Characteristics and Treatment Response of Childhood Lichen Planus: Insights from a Tunisian Study

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RÉSUMÉ

Le lichen plan (LP) est une affection dermatologique auto-immune inflammatoire chronique rarement rencontrée chez les enfants, avec des données limitées dans la littérature au continent indien. Nous avons mené une étude rétrospective au service de dermatologie de l'hôpital La Rabta à Tunis afin de préciser les caractéristiques épidémiologiques, les manifestations cliniques et les réponses au traitement du LP chez les enfants sur une période de deux décennies. Parmi les 255 patients atteints de LP, 11 (4,3 %) étaient des enfants de moins de 18 ans. L'âge médian de début était 15 ans. Le sex ratio hommes-femmes était 1,7. Le prurit était un symptôme constant, avec une atteinte cutanée observée dans la plupart des cas. Le LP classique était la variante morphologique prédominante. L'analyse histopathologique a confirmé le diagnostic en révélant des caractéristiques spécifiques. Les résultats du traitement sont variables : certains patients présentant une résolution complète et d'autres une amélioration partielle. Les cas de LP actinique ont montré des récurrences saisonnières.

Notre série précise certaines caractéristiques épidémiologiques et cliniques du LP chez les enfants en Tunisie. Des études prospectives sont nécessaires pour mieux comprendre l'incidence et les facteurs pronostiques de cette maladie.

Abstract

Lichen planus (LP) is an autoimmune, chronic inflammatory dermatological condition seldom encountered in children, with limited data available outside the Indian subcontinent.

This retrospective study delves into the epidemiological characteristics, clinical features, and treatment responses of LP in Tunisian children, spanning two decades. Among 255 LP patients, 11 (4.3%) were children aged 18 or younger. The median age of onset was 15 years, with a male-to-female ratio of 1.7. Pruritus was a universal symptom, with skin involvement observed in most cases. Classic LP was the predominant morphological variant. Histopathological analysis confirmed the diagnosis, revealing characteristic features. Treatment outcomes varied, with some patients experiencing complete clearance and others partial improvement. Actinic LP cases exhibited seasonal recurrences.

Our series specifies some epidemiological and clinical features of LP in tunisian children. The data from the literature is insufficient to determine the characteristics of LP in children. Prospective studies are needed for a better understanding of the incidence and prognostic factors of this disease.

Key-words: Lichen planus ; Child ; Skin disease

Introduction

Lichen planus (LP) is a chronic autoimmune disorder characterized by inflammatory manifestations. It is an uncommon dermatosis in children and its prevalence is different regarding age groups and geographical contexts. While the literature offers comprehensive insights into adult LP, childhood occurrences remain rare and the most reports are from Indian subcontinent. In this study, we present the epidemiologic characteristics, clinical features and response to treatment of LP in a serie of tunisian children.

Materials and methods

A retrospective study spanning two decades was conducted. We collected pediatric LP cases at the La Rabta hospital's dermatology department. Patients aged ≤18 years with LP or its variants were included. The diagnosis of cutaneous LP was considered if suggestive clinical features and histologic proof. In

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the cases of nails affection without skin involvement, the diagnosis was made clinically. Demographic details, lesion characteristics, histopathology findings, therapeutic interventions, and treatment outcomes were recorded.

Results

Among the 255 LP-diagnosed patients during the study period, a subset of 11 children (4.3%) met the inclusion criteria. All belonged to the Tunisian populace. Mean onset age was 15 years and varies from 6 years and 2 months to 17 years and 10 months. Male predominance was observed (male-to-female ratio of 1.7). There was no history of drug intake prior to the onset of LP. No positive family history of similar disease was available. The mean interval between the onset of symptoms and consultation was 6.7 months. All patients with skin involvement had pruritus of varied severity. The involvement of skin was observed in nine cases. Cutaneous lesions were associated to mucosal involvement (figure 1) in one patient (n°5) and to nails involvement in another patient (n°2).

Figure 1: Buccal réticulate plaque

Nails involvement was isolated in two cases (n°1 and 7). One patient (n°1) had a twenty nail syndrom (figure 2a) .

Figure 2a : Twenty nails syndrom

Figure 2b : improvement after treatment

Widespread lesions were observed in 4 cases (n°2,5,6,11) (figure 3).

Figure 3: Annular actinic LP

The limbs were the most common sites of the lesions (nine cases).The involvement of the soles was observed in one case (n°2).The most common morphologic variant seen was classic LP (7 cases). Two patients had actinic LP (n°8,10) (figure 4) .

Figure 4: Association of linear and actinic LP

Linear lesions were observed in two cases (n°3,10). Patient n°10 showed bowth linear and actinic LP (table 1).

Table1 : Patients characteristics

A/G	onset/ consultation	Topography	Type of lesions	Type of LP
6y4m/M	2m	20 Nails	Longitudinal ridging Nail plate thinning	20 nails dystrophy
17y/F	7m	UEs,T,S,FN	Violaceous and pigmented scaly papules Longitudinal ridging,splitting of nails	Classic LP
15y3m/M	3m	UEs, LEs,Df,T,P	scaly linear papules scaly papules Translucent papules	Linear LP+Lichen nitidus
18y/F	3y	Scalp,In F	Erythematosus papules witn violaceous center	Classic LP
17y/M	2m	T,UEs,Bm	Pigmented papules Oral reticulate plaque	Classic LP
9y/F	1m	UEs, LEs,T ,Df,Dh	Violaceous papules Translucent micro papules koebner	Classic LP
17y/M	NR	LBT ,RI RM	,Total nail dystrophy+pterygium	Nail LP
18y/F	2m	UEs,F,N	Annular pigmented papules Translucent micro papules	Actinic LP
16y/M	NR	UEs, LEs	Violaceous papules	Classic LP
14y /M	2,5m	F,N ,T, UEs	Scaly annular pigmented papules Linear Translucent	Linear LP+ Actinic LP

Association of linear LP and lichen nitidus was observed in one case (n°3).Histopathologic examination was performed in all cases with skin involvement. Nail and mucosal involvement were not verified by biopsy specimens. All patients demonstrated a bandlike lympho-histiocytic infiltration,hyperkeratosis and orthokeratosis. Pigment incontinence was seen in five cases (n°1,2,3,8,10,11) and acanthosis in three cases (n°2,4,8).The presence of numerous melanophages confirmed the diagnosis of actinic LP in two patients. The biopsy specimen of a translucent papule in case n°3 showed an expended dermal papillae containing a dense epitheloid infiltration confirming the diagnosis of lichen nitidus.

Details of the treatment offred to the patients are presented in table 1

Table2 : Treatment data

1	Topical corticosteroid under occlusion
2	Topical corticosteroid,Oral corticosteroids Antihistamines
3	Topical corticosteroid
4	Topical corticosteroid,Anti histamines
5	Topical corticosteroid, Antihistamines
6	Topical corticosteroid, Antihistamines photoprotection
7	Topical corticosteroid under occlusion
8	Topical corticosteroid, Antihistamines photoprotection
9	Topical corticosteroid, Antihistamines

A/G : age /gender ;y :years ;m :month ;M : male ;F :female ;NR :not recorded;UEs : upper extremities ;T :trunk ;S :soles ;FN :finguer nails ;LEs :lower extremities ;P :penis ;InF :inguinal fold ;Bm :buccal mucosa ;Df :dorsum of feet ;Dh :dorsum of hands ;LBT : left big toenail ;RI :right index ;RM :right major ;F :face ;N :neck.The mean duration of follow up was 7 months and varies from 2 to 21 months. Four patients had complete clearance after a mean treatment duration of nine weeks (n°3,6 8 ,9).Four other patients had partial improvement (n°1,2,7,10). Patients with actinic LP had reccurence of lesions in summer.

Discussion

The epidemiology and clinical nuances of childhood LP unveil distinct patterns. While adult LP prevalence approximates 1% of the general populace [1], childhood occurrences are rarer, constituting merely 2-3% [2-7] of cases and 2.5-5% of pediatric dermatoses [8,9].Prevalence is higher It seems more frequent among arabs and indian with a frequence of 7,5-11,2% [10, 11]. In our study the LP occurs in childhood in 4,3% of all cases. The average age of onset in the largest pediatric series varies from 7.1 to 10 years while The age of onset is older in our study (8,9,12-15). Childhood LP occurs at any age and to our knowledge the youngest case reported is aged 15 days [8,16]. Handa and Nnoruka found that the lesions occured earlier in boys than in girls [9,17]. As in literature data, there was a slight boys predominance among our patients [8,9,17]. Sharma found a ratio of almost 2 boys :1 girl [12]. Kanwar explains this fact by a higher frequency of consultation for dermatological lesions in indian boys compared to girls [8]. The frank predominance of boys, found in the series of Balasubramaniam is explained by the Indian origin of the majority of patients [15]. As has been documented by all pediatric series, the limbs were the most commonly affected. The involvement of the trunk represented the second localisation (Table 3).

Table 3 : Distribution of the different locations of lesions according to published series

Authors	Nb of cases	Localisation of lesions					
		limbs	trunc	Face	scalp	nails	mucosa
Kanwar [15]	100	54	14		-	12	-
Handa [16]	87	60	14	10	-	-	-
Sharma [23]	50	35	11	3	-	-	1
Nnoruka [12]	13	9	3		-	1	4

Koebner phenomenon was seen in only one patient. It was frequent (24-38% of cases) in the series of Nnoruka [12], Handa [16], Sharma [12] and Kanwar [3]. It is however found in only 6% of cases in the series of Kanwar [8] and in only one patient in the series of Balasubramaniam [26].

The lesions were wide spread in four cases. The disseminated nature of the lesions is more common in children [15,17-19]1. One patient had an asymptomatic reticulate plaque in the buccal mucosa with concomitant skin lesions. In the series of Kabita [20] erosive form is more common (63%) unlike other series where the reticular form predominates [8,9,21]. Nail LP was observed in three patients. Isolated typical nail LP with total onychodystrophy and pterygium was diagnosed in one case. Nail LP with longitudinal ridging and splitting concomitant to typical skin lesions was diagnosed in another case. In one patient the 20 nails showed evident thining associated to nail plate roughness caused by excessive longitudinal striations.

Nail involvement is seen in 1 to 15% of cases in adult [1,2,10,22-24]. Tosti [25] found that the ingueal LP occurs during childhood in 10.8% of cases. It represents 6.8% of the nail pathology in children and 4% of pediatric dermatosis.The author conclude that the frequency of pediatric LP would be underestimated. Classic LP was the commonest variant observed. its frequency varies from 42% to 76% in several pediatric series [3,8,911-13,26]. However, one patient from six in the series Milligan has the classical form of LP [27]. According to Dammak this form is not a majority among children in southern Tunisia [28]. The linear LP wasseen in two patients. This variant is known to be more common in children than in adults. However, several publications report a higher frequency in adults [9, 29, 30]. Two

patients had an annular actinic LP. One of them had a combination of linear and actinic LP. In our series, an association of lichen nitidus and lichen planus has been described. In the series of Kanwar [8], this association was found in 5% of cases. The prognosis of childhood LP is not well known. In our study, the response to treatment is partial or absent in half of cases.

Conclusion

Our series specifies some epidemiological and clinical features of LP in tunisian children. To our knowledge this is the largest Tunisian series about childhood LP. Prospective studies are needed for a better understanding of the incidence and prognostic factors of this disease.
Conflict of interest : None

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