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IP Indian Journal of Clinical and Experimental Dermatology

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Original Research Article

Clinico epidemiological study of vitiligo in children

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ARTICLE INFO

Article history:
Received 20-02-2020
Accepted 07-03-2020
Available online 21-04-2020

Keywords:
Childhood
Vitiligo

ABSTRACT

Introduction: Vitiligo is a common acquired pigmentary disorder characterized by well defined hypopigmented or depigmented macules due to absence or decrease in melanocytes.
Aim: To study the clinico epidemiological pattern of vitiligo in children.
Materials and Methods: A group of 50 consecutive children attending out patient in the department of DVL at Shadan Institute of Medical Sciences will be included. All the patients meeting the inclusion criteria were taken into the study. A designed, coded proforma was used for recording all the findings.
Results: Almost half of the children taken for study belongs to age group of 9-11 years. Majority of the study population were females. The most common pattern of vitiligo was vitiligo vulgaris. Common site of involvement was lower limbs. The most common associated feature was leukotrichia. The most common associated condition was photosensitivity. Family history was positive in only 4% of cases. Most of them were in the active stage of disease.
Conclusion: The female predominance was high in prevalence of vitiligo in children and an earlier age of onset seen among children with family history of vitiligo or autoimmune disorders. Vitiligo vulgaris is the most common presentation, and lower limbs being the most common site of involvement in children

1. Introduction

Vitiligo is a common acquired pigmentary disorder characterized by well-defined hypopigmented or depigmented macules due to absence or decrease in melanocytes. It is a common disorder affecting about 4% of the general population. Many studies have reported that around 50% of the patients have an onset before the age of 18 years and 25% before the age of 8 years.[1,2] It causes emotional trauma in children.[3]

Vitiligo may present anytime in life, including the neonatal period and childhood. Childhood vitiligo contributes to about 25% of total vitiligo cases.[4] The average age in different studies ranges from 4 to 8 years with a very early start possible from the age of 3 months .[5,6]

The existence of congenital forms is controversial.[7] In people with fair skin, vitiligo is usually visible after a first exposure of sun that will accentuate the contrast with healthy skin.[6,8,9] In general, childhood vitiligo differs from the adult vitiligo in the following aspects: a female preponderance is observed, segmental presentation is more commonly seen and associated autoimmune disorders are rare.[10]

The aim of this study is to know the clinico epidemiological pattern of vitiligo in children. And to study the epidemiological aspects and clinical profile of children with vitiligo.

2. Materials and Methods

The study was conducted in the Department of DVL, Shadan Institute of Medical Sciences. It is a tertiary care centre in Hyderabad. It was a Cross sectional study conducted during October 2017 To August 2019.

A total of 50 children of age between 3-14 years with vitiligo and who have given informed written consent are

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https://doi.org/10.18231/j.ijced.2020.018

included in study. And patients who are not willing to give written consent and participate in the study were excluded.

2.1. Procedure

Ethical clearance was obtained from the Institutional Ethical Committee, Shadan Institute of Medical Sciences, Hyderabad. A designed, coded proforma was used for recording the findings. The duration of the interview was up to 30 minutes for each individual.

1. Epidemiological information like age, gender, education, occupation, residence etc were taken and recorded.
2. Chief complaints related to skin, itching, skin lesions, past history of similar lesions or family history, any exacerbating factors, any associated medical or skin diseases etc. was recorded for clinical data.
3. Vitiligo was assessed according to VIDA scoring system.[11] The VIDA is a six-point scale for assessing vitiligo activity. It is based on the patient's own opinion of the disease activity. A low VIDA score indicates less activity. Active vitiligo involves either expansion of existing lesions or appearance of new lesions. Grading is as follows:

+4 : Activity of 6 weeks or less duration; 3 : Activity of 6 weeks to 3 months; +2 : Activity of 3 - 6 months; +1 : Activity of 6 - 12 months; 00 : Stable for 1 year or more; and -1 : Stable with spontaneous re-pigmentation since 1 year or more.

The data was entered in Microsoft Excel 2010 version. Data was analysed using Microsoft Excel 2010 and Epi Info 7.2.0. Descriptive and inferential statistical analysis were used in the present study. Results on continuous measurements were presented on Mean ± SD (Min-Max) and results on categorical measurements were presented in Number (%). Significance was assessed at 5% level of significance.

3. Results

3.1. Epidemiological Profile

Most of the study population belonged to the age group of 9-11 years, the mean age of onset was 9 years. Most of them are females, Majority are Hindus. Among them majority were studying 1^{st}– 5^{th} standard [Primary school]. Most of them are resided in urban areas. And many of them belongs to middle class as per socio economic status.

3.2. Clinical profile

The most common vitiligo was vitiligo vulgaris in 46% of cases {fig 1}, followed by focal in 36%, mucosal in 8% {fig 2} and acrofacial in 6%. Only 4% of them has segmental vitiligo.

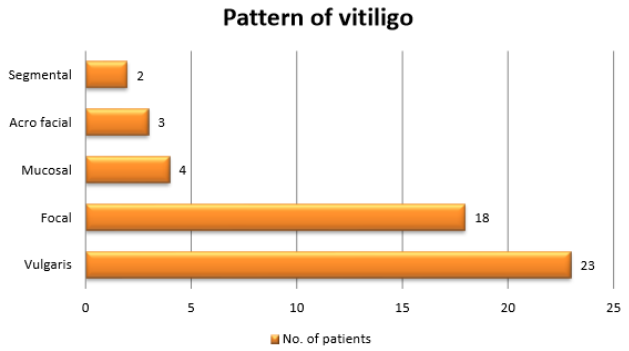

Fig. 1: Pattern of vitiligo

The most common site of involvement was lower limbs in 42% of cases, followed by face in 26%, Upper limb in 14%, scalp in 6% of cases. Mucosal involvement was seen in 12% of cases. Oral mucosa was involved in 8% and genital involvement was seen in 4% of study population.

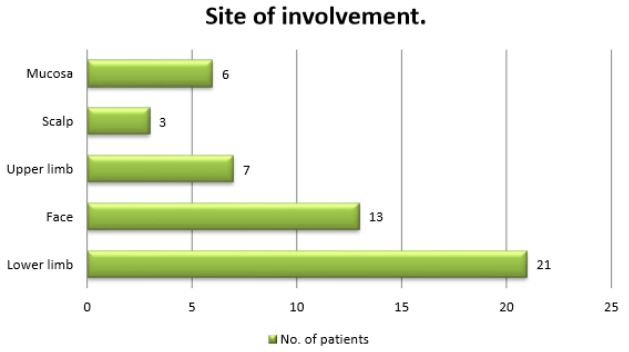

Fig. 2: Site of involvement

The most common associated feature was leukotrichia in 24% of cases, followed by Koebner's Phenomena in 18%, Atopic dermatitis in 14%, Halo nevi in 4% and alopecia areata in 2% of study population.

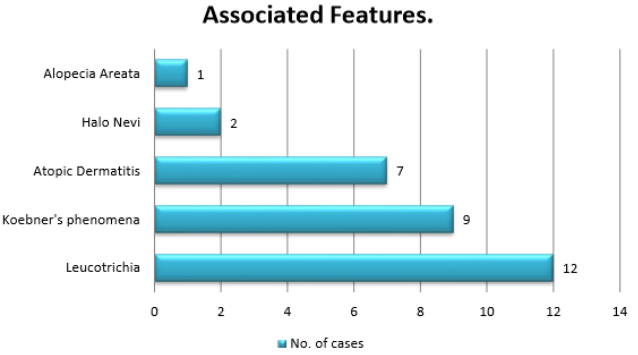

Fig. 3: Associated features

The most common associated condition was photosensitivity seen in about 10% of cases, Refractive errors seen in 8%, clinical hypothyroidism was present in 4% and hearing abnormalities in 2% of cases. family history was positive in only 4% of the cases. The mean age of onset was 6 years which is lesser when compared to general population. Most of them were in the active stage of disease [86%]. Only 14% of them had VIDA score of 0 to -1.

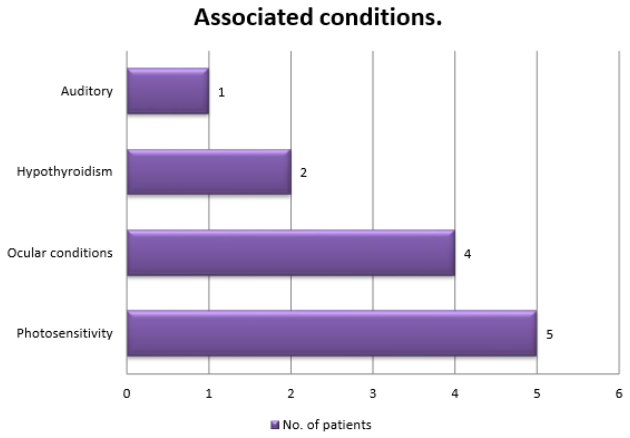

Fig. 4: Assocaited condition.

4. Discussion

Epidemiological Profile

In our study, most of the children belonged to age group of 9-11 years, the mean age of onset was nine years. Majority are females in the study population. Most of them were Hindus, lived in urban localities, belonging to middle class of socioeconomic status, the findings of our study are in concurrence with many other studies [12,13]

A study done by Kambil [14] with 40 children under 14 years of age with vitiligo in Kerala 18 were boys (45%) and 22 were girls (55%),[15] A study done by Preeti Keyur Sheth, S Sacchidanand, GS Asha [3] in the Bangalore Medical College reported that among 100 patients, we had 55 female patients and 45 male patients, in 9 months duration of the study. The findings of the above studies are in concurrence with the findings in the studies done by many others. [13,16–18] In contrast to all above studies, out of the 90 children with vitiligo in a study by Jaisankar et al [19], 39% were boys and 61% were girls, which was statistically significant.

4.1. Clinical Profile

4.1.1. Pattern of Vitiligo

In our study, the most common vitiligo was vitiligo vulgaris in 46% of cases {Figure 5 }, followed by focal in 36%, mucosal in 8% {Figure 6 } and acrofacial in 6%. Only 4% of them has segmental vitiligo.

In the study done by Preeti Sheth, Sacchidanand, Asha [3], stated that the most common pattern of vitiligo was vulgaris - 46%, followed by focal - 36%, mucosal - 8%, acro-facial - 7%, segmental - 3% of study population. Vitiligo may present in childhood in various morphological patterns. The most common pattern seen in many studies is vitiligo vulgaris, followed by focal and segmental vitiligo [20,21] whereas acro-facial and mucosal vitiligo have a lower incidence. [5,8,14,19,22]

4.1.2. Site of Involvement

In our study, the most common site of involvement was lower limbs about 42% of cases, followed by face in 26%, Upper limb in 14%, scalp in 6% of cases. Mucosal involvement was seen in 12% of study population. Oral mucosa was involved in 8% and genital area involved in 4% of the cases of mucosal involvement. A study done by Neerja Puri [13] reported that the most common site of involvement was face 30%, neck 30% and legs 30%, followed by trunk, arms and mucosal in 10% of cases each. [16,3,8,24,27.]

4.2. Associated Features

In our study, the most common associated feature was leukotrichia in 24% of cases. Koebner's phenomenon is another common feature seen in vitiligo, which is an indicator of disease activity, in our study it is seen in 18% of cases, followed by Atopic dermatitis in 14%, Halo nevi in 4% and alopecia areata in 2% of cases.In the study done by Preeti Sheth, Sacchidanand, Asha [3], leukotrichia was seen in 25% of patients, whereas Koebner's phenomenon was seen in 21% of patients. Similar findings were seen in study done by Puri [23] were Koebner's phenomenon positive in 20% of cases. In the study done by Kambil [14] Leukotrichia was seen in 25% of cases. A study done by Gurrala Satyanarayan Reddy, N. Arun [12] stated that Leukotrichia was present in 27% and Koebner's phenomenon in 24% of cases. Beliappa et al [24] and Kayal et al [25] have reported Koebner's in 26% and 36% of cases respectively.

4.3. Associated Conditions

In our study, the most common associated condition was photosensitivity about 10% of study population. Refractive errors seen in 8% of cases, hypothyroidism was present in 4% and hearing abnormalities was present in 2% of cases. A study done by Neerja Puri [13] reported that hypothyroidism was seen in 50% of cases, autoimmune thyroiditis in 10%, alopecia areata in 10%, and atopic dermatitis in 10% of cases, psoriasis in 3%, and premature greying of hairs in 3.3% were seen in study group. A study done by Preeti Sheth, Sacchidanand, Asha [3] reported that the most common association with vitiligo in children was atopic dermatitis in 13% of cases, while hypothyroidism was seen

Fig. 5: Vitiligo Vulgaris

Fig. 6: MucosalVitiligo

in 1 case, halo nevi were seen in 3 cases and alopecia areata in 1 case. All these autoimmune disorders were found exclusively in children with non-segmental vitiligo. In contrast to the above studies, Jaisankar et al.[19] did not show any association of autoimmune condition with vitiligo.

In our study, family history was seen only in 4% of cases. The mean age of onset was six years which is lesser when compared to general population. A study done by Preeti Sheth, Sacchidanand, Asha[3], reported that familial association like thyroid diseases and atopic dermatitis were noted in 7 patients each (about 7%). Children with familial association had a mean age of onset of 6.8 years, which was earlier than age of onset of children with no familial association of 9.2 years. A study done by Kambil[14], reported that the family history was seen in 15% of study population. Manali et al[17] and Rangaraj[18] have noted that family history positive in 17% and 12% of cases respectively.

In our study, 86% of them were in the active stage of disease {VIDA score of +1 to +4}. Only 14% of them had VIDA score of 0 to -1. A study done by Preeti Sheth, Sacchidanand, Asha[3], recorded that score of +4 seen in 81 cases, followed by +3 seen in 6 cases, +1 in 2 cases and +2 in 2 cases, 0 in 4 cases and −1 in 5 cases of study population.

5. Conclusion

The female predominance is high in prevalence of vitiligo in children and an earlier age of onset seen among children with family history of vitiligo or autoimmune disorders. Vitiligo vulgaris is the most common presentation, and lower limbs being the most common site of involvement in children.

6. Source of funding

None.

7. Conflict of interest

None.

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Cite this article: Ali SY, Basha SHM. **Clinico epidemiological study of vitiligo in children**. *IP Indian J Clin Exp Dermatol* 2020;6(1):79-83.