



Clinical Profile of Vitiligo in Children: A Prospective Study

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ABSTRACT

Vitiligo is a chronic disorder of hypomelanosis of skin and hair characterized by total absence of melanocytes microscopically. Vitiligo in children differ from adult onset in epidemiological profile, clinical characters and psychological impact on self and family. To study clinical patterns and trends of vitiligo in children and develop a better understanding on this topic. All patients of less than or equal to 14 years attending outpatient department for vitiligo were studied and details recorded. Result obtained was compared with existing literature. The prevalence of vitiligo among children is high with a female predominance. The family history and autoimmune association is significant in children with earlier age of onset. Type and distribution of vitiligo also varies considerably from adults.

KEYWORDS: *Vitiligo, Children, Leukotrichia, Koebnerization*

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INTRODUCTION

Vitiligo is a common acquired disorder characterized by idiopathic, progressive, well circumscribed depigmentation of the skin and hair. The etiopathogenesis of vitiligo is poorly understood but it is considered to be a multifactorial disease with a complex pathogenesis implicating autoimmune, cytotoxic, viral, and neural mechanisms for destruction of melanocyte. The most important triggering factors are poor nutrition, emotional stress, trauma, drugs, infections, sepsis and exposure to sun, chemicals and toxins [1]. Although vitiligo is commonly observed in adults but children below the age of 10 years are also affected [2-3].

Childhood vitiligo resembles adult onset vitiligo but, can have varied clinical patterns and trends. Female preponderance, familial tendencies and decreased association with autoimmune disease is usual in this age group. Although vitiligo in children commonly present as non-segmental involvement, its segmental distribution is more common than in adult onset vitiligo.

Also, Vitiligo in childhood can be associated with significant emotional trauma that may have long-lasting effects on the psychosocial development of these children and self-esteem [3]. In view of paucity of literature, the present prospective study was undertaken in the Department of Dermatology at LG Hospital, Ahmedabad describing characteristics of childhood vitiligo.

MATERIAL AND METHODS

All the patients of less than or equal to 14 years, diagnosed as vitiligo, attending outpatient department at Department of Dermatology, venereology and Leprosy were included in the study from August 2019 to September 2021. Demographic data was collected from patient's parents/guardian including patient's age, sex, occupation, duration, site of the lesion, number of lesions, predisposing factors, family history and history of treatment taken. Based on history scoring was done using six point scale; Vitiligo disease activity score (VIDA) [4]. A thorough dermatological examination was carried out by recording the observations in a preset proforma which included the number, size of depigmented lesions, the approximate percentage of body surface area using Wallace rule of nine. All the patients were classified according to Vitiligo Global Issue Consensus Conference 2011-2012 report [5]. Diagnosis of vitiligo was confirmed under Wood's Lamp examination. Baseline investigations such as complete hemogram, renal function test, liver function test, vitamin B12 levels and Serum TSH levels was done in all patients. Analysis was done using the appropriate statistics method.

RESULTS AND DISCUSSION

The total of 122 patients were studied out of which 46(37.7%) were male and 76(62.3%) were female and female to male sex ratio was 1.6:1. The family history of vitiligo was positive in only 22(18%) patients. The age of onset in various groups was recorded. The maximum number of patients, 81.9% were of more than 6 years. The youngest patient recorded is of 1 month of age and oldest being 14 year of age. The average age of onset observed was 9.15 year. The sites affected with vitiligo was recorded in all the patients. Face, neck and lower extremities observed to have the maximum involvement seen in 59 and 41 patients respectively. Other sites affected were abdomen (21), upper extremities (16) and scalp (9).

Amongst the 16 patients affected with segmental vitiligo, trigeminal and thoracic involvement is seen commonly i.e in 10 and 4 patients respectively. Non segmental involvement is more common than segmental involvement. Amongst all the patients of non-segmental vitiligo, vitiligo vulgaris was the most common type followed by focal, mucosal and acral vitiligo. There was no case of universal or mixed vitiligo indicating their rarity in children ≤ 14 year of age.

The maximum number of patients found to have VIDA (+4) i.e active disease in last 6 weeks. Stable vitiligo with VIDA (-1) was seen in 4 patients only. Association of vitiligo with various factors was recorded. Positive relation of vitiligo with leucotrichia was seen in 36(29.5%) patients including both segmental and non segmental types. Amongst 16 patients of segmental vitiligo, 8 patients had leukotrichia. Koebnerization was positively associated in 38 patients. Presence of halo naevi was seen in 5 patients. Association of autoimmune disorders (including atopic dermatitis and hypothyroidism) was seen in 9 patients.

Worldwide, vitiligo affects about 1% of the population and the incidence rate varies from 0.1% to 8.8% with no social, racial and regional variation. The prevalence of vitiligo is high in general population of India, varying in range of 0.46% to 8.8% [6]. In two Indian studies, the prevalence has been reported to be 26% (south India) [7] and 23.3% (north India) [8] respectively.

Various studies have reported a female predominance among the paediatric age group while a few have found equal distribution among the two sexes. In our study, females outnumbered males with female to male sex ratio as 1.6:1 which is in concordance with the study conducted by [9-10]. The female predominance could be due to increase concern amongst parents owing to the cosmetically disfiguring nature of the disease.

In our study the average age of onset is 9.15 years which is comparable to the study conducted [11] with average age of onset being 8.9 year. It is slightly higher than the studies conducted by Reddy *et al* and Gupta *et al* which was 6.3 year and 5.6 year respectively. Most of the patients in our study i.e; 81.9% had disease onset after 6 years of age which is in accordance with the studies conducted [12] where the patients belonging to age group of more than 6 years were 70% and 83.7% respectively.

Our study indicated Vitiligo vulgaris as the most common type of vitiligo followed by focal and segmental vitiligo which is comparable to literature available. Though, not much data is available for clinical pattern of vitiligo in children. Our study found out presence of trichome vitiligo in 11 patients and confetti like macules in 6 patients. This is nearly similar to incidence of these morphological patterns in adults.

The most common site involved in childhood vitiligo was head and neck region (49%). This is consistent with findings of studies by Puri *et al* [6] and can be attributed to UV light induced koebnerization. More than 60 percent of the patients presented with higher values of VIDA; indicating increased or recent disease activity at the time of presentation. This is similar to study conducted by Sheth *et al* [11] where in VIDA of +3 and above was seen in 87% of the patients.

Leucotrichia was observed in 29.5% of the patients in our study which is comparable to the study by Reddy *et al* [9] and Sheth *et al* in which leucotrichia was recorded in 27% and 25% respectively. Leucotrichia is believed to be most commonly associated with vitiligo vulgaris. Also, in our study Koebnerization was observed in 31.6% of the patients. This observation is validated by other studies by Reddy *et al* [9] (24%) and Sheth *et al* (21%). The most significant cutaneous association observed was halo naevi (4.9%). It can be explained by involvement of CD8⁺ cytotoxic T-cell activity in the destruction of both nevus melanocytes and adjacent epidermal melanocytes [13].

The transmission of vitiligo has a complex mode. It is probably polygenic with a variable penetrance. It has myriad of clinical presentation and considerable differences when it presents in children. Considering the extent of the disease burden and the lack of published information on the subject, more studies need to be carried out to learn more about its epidemiology and clinical features.

TABLE 1: AGE- SEX DISTRIBUTION

AGE GROUP	NUMBER	PERCENTAGE (%)	MALE	FEMALE
0-5 YEAR	22	18	10	12
6-10 YEAR	48	39.4	18	30
10-14 YEAR	52	42.6	18	34
TOTAL	122	100	46	76

TABLE NO.2: TYPES OF CHILDHOOD VITILIGO

	CLINICAL TYPE	NUMBER	PERCENTAGE (%)
NON SEGMENTAL VITILIGO	VITILIGO VULGARIS	64	52.4
	FOCAL VITILIGO	34	27.8
	MUCOSAL VITILIGO	6	4.9
	ACRAL VITILIGO	2	1.6
SEGMENTAL VITILIGO	SEGMENTAL VITILIGO	16	13.1
	TOTAL	122	100

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