

A Hospital-Based Study of Epidemiological Patterns of Vitiligo

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Abstract

Background: Vitiligo is an acquired, polygenic, multifactorial melanocytopenia of unknown etiology. This study was conducted to know the epidemiological patterns of vitiligo. **Methods:** One hundred patients were included in the study over one and half-year period. Patients were diagnosed by clinical findings and Wood's lamp. Each patient's age, sex, age of onset, site and clinical type, disease activity, coexisting systemic or dermatological diseases, and family history were recorded. A complete blood count, routine biochemistry tests, complete urinalysis were done. **Results:** The majority of patients were male (n = 58, 58%), and the rest females (n = 42, 42%). The age at onset of the condition varied from 3 months to 78 years. History of trauma or stress as was seen in 34% of patients; 13% had family history of vitiligo. In 56 patients vitiligo was generalized, whereas in 44 it was localized. The most common site was the lower limbs (42%), followed by the face (26%), upper limbs (16%), trunk (14%) and least was genitalia (2%). **Conclusion:** The findings of this study are similar to those obtained by other authors, showing younger age of onset and generalized variety, the commonest clinical type of vitiligo.

Keywords: Vitiligo; Autoimmunity; Diabetes Mellitus.

Introduction

Vitiligo is an acquired, polygenic, multifactorial melanocytopenia of unknown etiology [1]. Since ancient times, patients with vitiligo have suffered the same mental abuse as patients with leprosy. It is of major social and cosmetic concern in India. The prevalence of vitiligo worldwide varies between 0.5 to 2% [2]. Although all races affected equally, highest incidence has been recorded in India & Mexico [1]. The real incidence in our country remains unknown in the absence of any epidemiological survey.

Aims and Objectives

To assess the clinical and epidemiological profile of individuals affected by vitiligo.

Materials and Methods

This is a hospital-based, cross-sectional study conducted from October 2011 to March 2013 in

the Department of Dermatology, Venereology and Leprosy, Regional Institute of Medical Sciences (RIMS), Imphal. A total of 100 patients clinically diagnosed with vitiligo were included in the study. Patients with depigmentation caused by chemicals, burns or other disease were excluded. A detailed history was taken from all patients. It included age, sex, and occupation, age at onset of disease, duration of disease, progression, site at onset, presence or absence of koebner phenomenon and associated diseases, family history of vitiligo, thyroid diseases, diabetes mellitus and other autoimmune diseases. Detailed dermatological and systemic examination was performed to classify the type of vitiligo and to note the presence of any other disease. All the data were collected in predesigned proforma. The patients were subjected to the following investigations: haemogram, urine analysis, blood sugar and relevant thyroid function tests, etc. A written consent was obtained from all the participants and an approval from ethical committee of the institution was received for this study.

Analysis of these data was done by SPSS software, version 20.0 for Windows. Results on continuous measurements are presented as Mean \pm SD

(Min-Max) and results on categorical measurements are presented in Number (%). Chi-square/Fisher Exact test has been used to find the significance of study parameters on categorical scale between two or more groups and p value of < 0.05 was taken as statistically significant.

Results

The study subjects included 100 vitiligo patients, out of whom 58 were male, rest were female, making a male to female ratio of 1.3:1. Majority of the patients (32%) were in the age group of 11-20, followed by 21% in 31-40years, 13% in 41-50years, 12% in 1-10 years and 11% in 21-30 years of age group. Majority (52%) of patients had the disease of 1-5 years of duration followed by less than 1 year duration (30%). Only 18% of the patients had the disease of more than 5 years duration. Out of 100 cases 13(13%) had one or more relative with vitiligo. History of trauma or stress as precipitating factor was seen in 34% of patients and remaining 66% patients don't remember any such precipitator.

The clinical types were classified into 2 main subtypes namely localized and generalised. In the subtypes, vitiligo vulgaris was most common (38%) followed in frequency by focal (37%), acrofacial (16%), segmental (4%), mucosal (3%) and mixed type (1%). Among the different clinical patterns of vitiligo, most of the patients (59.5%) with focal vitiligo had duration of less than 1 year, whereas in vitiligo vulgaris and acrofacial vitiligo, the duration of disease in most of the patients (63.2% & 62.5% respectively) was in the range of 1-5 years (Figure 1). One case of generalized vitiligo had duration of more than 5 years. There were 42% cases of unstable vitiligo, and 58% stable patients. Disease activity was more among generalized type of vitiligo, with 32 out of 56 cases were having active disease compared to 10 out of 44 cases of localized vitiligo (Table 1), which was statistically significant (p-value = 0.001). Generalized vitiligo was associated with a significant family history of vitiligo, but without statistical significance (Table 2).

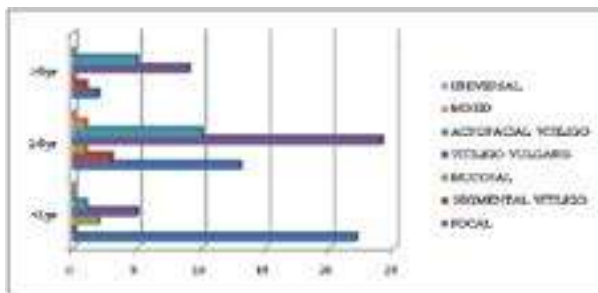


Fig. 1: Distribution of subjects according to duration of disease and clinical types of vitiligo

Table 1: Disease activity in localized & generalized vitiligo

Type of vitiligo	Activity		Total
	Present	Absent	
Localized vitiligo	10	34	44
Generalized vitiligo	32	24	56
Total	42	58	100

Table 2: Family history of vitiligo in major types of vitiligo: Chi-square value = 0.186 p value (Fisher's exact test) = 0.770 (not significant)

Disease	Family history of vitiligo	
	Present	Absent
Localized	5	39
Generalized	8	48

Certain conditions appear to be associated with vitiligo, found either on history taking, examination or investigations. Also certain factors were found to initiate/spread the disease. These include alopecia areata (5%), diabetes mellitus (5%), morphea, systemic sclerosis and psoriasis (1% each), family history of diabetes mellitus (23%) and family history of thyroid disorder (13%).

Discussion

Vitiligo is an acquired, idiopathic, heritable depigmentary disorder of the skin and/or mucous membranes. Statistical studies about vitiligo showed variable results. Although vitiligo affects both sexes equally [2], most of the studies show a female preponderance which probably reflect their greater concern for cosmetic disfigurement and related to the social and marital problems [3,4]. Our study had a male to female ratio of 1.3:1 and there was no gender preponderance which was comparable with study conducted by Howitz et al [5]. In this study, the age of onset of the patients studied varied from 3 years to 78 years. Mean age of the patient was 28.79±17.14 years, which was similar to Alzolibani et al [6] who found the mean age of 26±12.6 years.

Younger people were more frequently affected and had active vitiligo compared to older people. In our study, majority of the patients (43%) were in the age group of 11-30years, which was similar with other studies reports [7,8]. Family history of vitiligo was 13% in our study which was within the literature range of 6-41% from various studies [1,9,10]. Positive family history is considered to be a poor prognostic factor for vitiligo [8].

Raghu R et al. [11] and Martis J et al. [12] have noticed history of trauma or stress as precipitating factor for vitiligo in 31.3% and 34% respectively. In our study, history of trauma was seen in 34% of patients. Any injury or trauma can induce the vitiligo lesions which may be by stimulating the autoimmune process [12]. Various studies suggest that patients with vitiligo have an increased risk of developing autoimmune disease such as thyroid disease, Addison's disease, diabetes mellitus and alopecia areata [1,7]. In our study, alopecia areata was associated with 5% cases of vitiligo which was similar to study by GopalK et al. [6] who observed alopecia areata in 7.4%. Halo nevi were observed in 3 patients, out of that 2 were seen in generalized and one was in localized type of vitiligo. This was in contrast with studies which showed higher incidence of halo nevi like Akrem J et al. [13] observed 34% of halo nevi in children and 10% in adults with vitiligo.

Among the various clinical types, vitiligo vulgaris (38%) was found to be the commonest. Gopal et al. [7] and Shajilet al. [8] also reported generalized vitiligo to be more common in their studies. Lower limb was the common site of onset in 42% of patients in this study irrespective of the clinical type of vitiligo, similar to studies by Shajil et al. [8] and Kumar S et al. [14].

Out of 100 patients, only 5 patients showed raised blood sugar levels. This was comparable with Shahla BN et al. [15] and Dhar S [1] who found 4.7% and 4.8% of diabetes in vitiligo patients respectively, in contrast to GopalK et al. [7] who found 16% of patients with diabetes mellitus.

The cross-sectional design of this study does not permit to infer causal relationships from the results. For example the association with alopecia areata, whether it is directly associated with vitiligo or simply a coincidental finding could not be ascertained, mainly in view of a smaller sample size.

Conclusion

This study revealed that vitiligo starts at younger age as total 43% of cases were within 20 years of age. An early age of onset is possibly affected by both genetic and environmental factors. This study indicated that regardless of the sex of the patient and clinical presentation, the family history of vitiligo has significant effects on the age of onset and chances of developing generalized vitiligo.

Activity of the disease was more in 1-5 years duration, indicating that the disease progresses slowly in the beginning. Findings in our study correlate with other studies, and this clearly establishes that the pathophysiology of vitiligo is complex and some systemic diseases may co-exist with vitiligo. So, it is reasonable to investigate each patient periodically.

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