Original Research Article

Study of vitiligo at a tertiary care hospital

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Abstract

Background: Vitiligo is a common acquired, progressive, multifactorial, depigmenting disorder characterized by the appearance of circumscribed white macules varying patterns, varying from small macules with scalloping borders to near total depigmentation of body, supposed to be due to chronic, progressive loss of functional melanocytes in the epidermis. This study was aimed to study vitiligo in our tertiary care hospital. **Material and Methods:** This prospective, observational and descriptive study was conducted in OPD patients clinically diagnosed as vitiligo during study period. **Results:** A total of 300 patients were included in the study after applying inclusion and exclusion criteria. Among these 179 (59.67%) were females and 121 (40.33%) were males. The female to male ratio was 1.5:1. The age at onset was found to be in the 11-20 age group in 104 (34.5%) patients. Most common duration was noted as between 1 to 5 years, 169 (56.5%) patients. A positive family history was present in 62 (20.5 %) patients In 67 patients triggering factor was noted. Koebner's phenomenon was noted in 62 (22.2%) patients while leucotrichia was seen in 33 (11 %) patients in our study. Most common site affected was lower limb in 204 patients (68.17%), followed by upper limb in 194 (64.67%) patients. Clinically most common morphological pattern was vitiligo vulgaris noted in 52.5% patients. Acrofacial, segmental, universal, mucosal patterns were noted in 23.83 %, 7.67 %, 5.67 %, 1 % patients respectively. **Conclusion:** Vitiligo has a multifactorial origin, unpredictable triggers and progress of disease. Early age of onset, family history, HLA antigen, presence of leucotrichia, other skin problems are predictors for poor prognosis.

Key Words: vitiligo, vulgaris, Koebner's, leucotrichia, psoriasis

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INTRODUCTION

Vitiligo is a common acquired, progressive, multifactorial, depigmenting disorder characterized by the appearance of circumscribed white macules of varying patterns, varying from small macules with scalloping borders to near total depigmentation of body, supposed to be due to chronic, progressive loss of functional melanocytes in the epidermis[1]. Incidence is nearly 1%–2% of the world population irrespective of race and ethnicity with highest numbers recorded in Indian subcontinent[2,3]. In India prevalence of vitiligo is found to be 0.46% to 8.8%[4].Vitiligo is a multifactorial disease with a complex pathogenesis and several postulations for destruction of the melanocyte function such as autoimmune, cytotoxic, biochemical, oxidant–antioxidant, viral, and neural mechanisms in genetically predisposed patients.. Autoimmune etiology is considered strongly as presence of autoimmune diseases like autoimmune thyroiditis, Grave's disease, Addison's disease, diabetes mellitus, alopecia areata, and pernicious anemia is associated in patients with vitiligo[5]. While other study proposed strong family history as from 6% to 18% in general population[6] and up to 40% in Indian population[7]. Clinically vitiligo can range from small macules to whole non-pigmentation of body. The progress of the disease is often unpredictable, Factors such as poor nutrition, emotional stress, autoimmunity, trauma, drugs, infections, sepsis, and exposure to the sun, chemicals, and toxins are often considered to trigger it[8]. Cosmetic disfigurement caused by vitiligo varies, but associated other conditions like psychosocial impact affects general quality of life. Females and young individuals have increased risk of psychiatric morbidity. Many communities still consider it as social stigma, contagious disease, punishment for sins of the previous birth, etc. Many patients take treatment from quacks and

land up in more cosmetic disfigurement. This study was aimed to study vitiligo in our tertiary care hospital.

MATERIAL AND METHODS

This prospective, observational and descriptive study was conducted in department of Dermatology and Venereology, Mahavir medical college and general hospital. Study period was of 5 months from March 2019 to July 2019. Study approval was taken from institutional Ethical Committee for this study. Study was conducted in the Outpatient department (OPD) of the hospital. Patients visiting the OPD with idiopathic depigmented lesions and clinically diagnosed as vitiligo during study period were included in this study. Diagnosis was purely based on history and clinical examination. Before participation consent of the patient was taken. Patients with depigmented patches due to causes such as congenital patches or acquired depigmented lesions due to infections, physical trauma, chemical injury, burns, nutritional deficiency, inflammatory dermatosis, and drug reaction induced depigmentation were excluded from this study. Patients included in the study underwent detailed history taking with socio-demographic profile. mainly age of onset, duration of disease, precipitating factors, family history, and any other cutaneous or systemic illness. Clinical examination including site of onset, most common site, presence of leucotrichia, Koebner's phenomenon, etc was taken. Routine blood and urine examination, blood sugar and thyroid function test were done where ever necessary. and according to area of body part involvement. Clinically lesions were classified into acrofacial (lesions noted over both face and acral regions), segmental (lesions distributed in a segmental/dermatomal pattern), vitiligo vulgaris (lesions affecting many parts of the body), mucosal (lesions confined only to mucous membranes) and universal. Data collected in pre-designed Microsoft excel sheet and analysed.

RESULTS AND DISCUSSION

Pathogenesis of vitiligo is still a mystery. Various theories of origin, genetic, toxic, neurogenic, and autoimmune have been proposed by different workers, yet none is definite[8]. The prevalence of vitiligo in India has been invariably reported between 0.25% and 4% of dermatology outpatients across in various studies[9]. The different ethnic background of the population, residing in different geographic regions with different environmental conditions may contribute to the wide variation in the prevalence of vitiligo in India. A total of 300 patients were included in the study after applying the inclusion and exclusion criteria. Among these 179 (59.67%) were female and 121 (40.33%) were male [table 1]. The female to male ratio was 1.5:1. We noted female predominance in our study. Similar reports with a predilection for women being affected are noted in other studies.[2,11]The increased number of female vitiligo patients can be explained as they notice the change in appearance and approach the doctors sooner than men and of the social stigma in the community, young females tend to report earlier due to matrimonial anxiety.

Table 1: Distribution of patients in male and female

Age(years)	Male (%)	Female (%)	Total (%)
1-10	5 (1.5)	7 (2.33)	12 (3.83)
11-20	26 (8.83)	38 (12.67)	64 (21.5)
21-30	31 (10.33)	56 (18.67)	87 (29)
31-40	28 (9.16)	38 (12.67)	66 (21.83)
41-50	14 (4.67)	19 (6.33)	33 (11)
51-60	11 (3.83)	11 (3.83)	22 (7.5)
61-70	5 (1.83)	6 (1.83)	11 (3.66)
71-80	1 (0.33)	4 (1.33)	5 (1.67)
Total	**121 (40.33)**	**179 (59.67)**	**300**

The age at onset was found to be in the 11-20 age group in 104 (34.5%) patients, followed by age group between 21- 30 years in 70 (23.5 %) patents [table 2]. These findings are consistent with the other reports[12]

Table 2: Age at onset of vitiligo in different age groups

Age(years)	Male (%)	Female (%)	Total (%)
1-10	16 (5.5)	30 (9.83)	46 (15.33)
11-20	43 (14.17)	61 (20.33)	104 (34.5)
21-30	28 (9.33)	42 (14.17)	70 (23.5)
31-40	12 (4.17)	26 (8.5)	38 (12.67)
>40	22 (7.17)	20 (6.83)	42 (14)
Total	**121 (40.33)**	**179 (59.67)**	**300**

Most common duration was noted as between 1 to 5 years 169 (56.5 %) patients [table 3]. Unpredictable disease progression, adjustment with cosmetic appearance at later stage may have reduced the number of patients with more than 5 years duration of disease.

Table 3: Duration of disease in different age group

Duration(years)	Male (%)	Female (%)	Total (%)
<1	14 (4.67)	33 (10.83)	47 (15.5)
1-5	70 (23.5)	99 (33)	169 (56.5)
6-10	7 (2.17)	19 (6.33)	26 (8.5)
11-15	14 (4.5)	11 (3.83)	25 (8.33)
16-20	10 (3.67)	11 (3.5)	21 (7.17)
>20	6 (2.17)	6 (2.17)	12 (4)
Total	**121 (40.33)**	**179 (59.67)**	**300**

A positive family history was present in 62 (20.5%) patients. Genetic factors play an important role in manifestation of vitiligo. Though various studies indicate different patterns of involvement of genetic factors and patterns appear to be polygenic. Other studies reported familial occurrence from 5 to 30% in different studies[13]. A study reported as human leucocyte antigen (HLA) type significantly related to family history and early onset of vitiligo[14]. Positive family history is considered to be a poor prognostic factor[2] [table 4].

Table 4: Family history of vitiligo

Family history of vitiligo	Total	Percentage (%)
Father	11	3.5
Mother	27	9.17
Both father and mother	4	1.33
Sister	7	2.33
Brother	13	4.17
Total	**62**	**20.5**

In 67 of patients a triggering factor was noted for vitiligo. Physical trauma in 33 (49%) was the most common triggering factor noted, followed by surgery in 10 (14.9%), pregnancy, medical illness and psychological stress in 8 patients respectively [table 5]. Koebner's phenomenon was noted in 62 (22.2%) patients while leucotrichia was seen in 33 (11 %) patients in our study. Shajil *et al*[12], noted 9% patients with leucotrichia. Leucotrichia is considered to be a poor prognostic factor[2]. Some studies shows higher prevalence[16].

Table 5: Triggering factors in vitiligo patients

Triggering factors	No. of patients
Physical trauma	33 (49%)
Pregnancy	8 (11.9%)
Medical illness	8(11.9%)
Psychological stress	8(11.9%)
Surgery	10 (14.9%)
Total	**67**

Most common site affected was lower limb in 204 patients (68.17%), followed by upper limb affection in 194 patients (64.67%). Other sites noted were face, trunk, scalp and genitals in 46 %, 40.67 %, 17 % and 5.5 % patients respectively [table 6]. Findings are consistent with other studies.[12,13]

Table 6: Site affected

Site	Total	Percentage (%)
Lower limb	204	68.17
Upper limb	194	64.67
Face	138	46
Trunk	122	40.67
Scalp	51	17
Genitals	16	5.5

Clinically the most common morphological pattern noted was vitiligo vulgaris in 52.5 % patients. Acrofacial, segmental, universal, mucosal patterns were noted in 23.83 %, 7.67 %, 5.67 %, 1 % of patients respectively. These findings are similar with other studies.[12,16,17] This indicates that the process of depigmentation, either immune-mediated or toxic may occur simultaneously or subsequently at various unrelated distant sites.

Table 7: Types of vitiligo

Type	Total	(%)
Vitiligo vulgaris	158	52.5
Acrofacial	71	23.83
Segmental	23	7.67
Universal	17	5.67
Mucosal	3	1

CONCLUSION

Vitiligo has a multifactorial origin, unpredictable triggers and progress of disease. Early age of onset, family history, HLA antigen, presence of leucotrichia and other skin problems are predictors for poor prognosis.

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