

Clinico-Epidemiological Profile of Patients with Vitiligo in a tertiary care centre

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Abstract

Background: Sociodemographic profile and clinical aspects of 210 patients with vitiligo were studied and analysed in this study

Materials and Methods: Clinical and sociodemographic details of the patients attending the dermatology outpatient department were examined, recorded and analysed for this observational study.

Results: There were 93 males and 117 females (m:f 1:1.28) Maximum (53.33%) patients belonged to age group >20- 40 years. A higher (65.71%) proportion of subjects were from rural background. Majority (47.62%) of patients had age of onset > 20 yrs. Mean age of onset was 23.28 months. Majority (33.81%) of the patients had duration between >1 to 5 years at the time of presentation.

Family history was present in 21.43% patients. Most (78.57%) of the patients had non segmental form of vitiligo while segmental form of vitiligo was (3.33%) least common. Majority (84.29%) of the patients had body surface area involvement < 10%.

Conclusion:

Vitiligo affects both genders with slight female preponderance and all age groups irrespective of differing geo-environmental, living conditions and lifestyles, or ethnicities, Patients with an affected first-degree family member may have more chances of onset at an early age compared with others.

Keywords : Vitiligo, segmental, non-segmental

Introduction

Vitiligo is an acquired condition resulting from the progressive loss of melanocytes. It is characterized by milky-white sharply demarcated macules.¹ It is the most common depigmentary disorder of the skin and hair.^{2,3} Vitiligo occurs worldwide with an overall prevalence of 1%. However, its incidence varies from 0.1 to > 8.8%; highest incidence being reported from India.⁴

Vitiligo can begin at any age but in the majority of cases become apparent between the age of 20 and 30 years. Almost half the patients present before the age of 20 years, and nearly 70–80% before the age of 30 years.

Major hypotheses implicated in the pathogenesis of vitiligo include (i) autoimmune hypothesis (ii) neural

hypothesis (iii) oxidative stress hypothesis.⁵ The convergence theory states that stress, accumulation of toxic compounds, infection, autoimmunity, mutations, altered cellular environment, and impaired melanocyte migration can all contribute to pathogenesis.⁶ Autoimmune mechanisms are more likely to contribute to generalized vitiligo, while a more localized phenomenon (i e, the neuro- humoral hypothesis) may be responsible for segmental or focal vitiligo.⁷

This study was carried out with an objective to document clinico-epidemiological features of vitiligo from this part of the country having varied geo-climatic conditions, rural and semi-urban communities of diverse ethnic backgrounds and living styles differing from rest of the country

Material and methods

A hospital based observational study of 210 patients presenting with vitiligo was conducted amongst the patients attending the dermatology OPD of Maharana Bhupal Government Hospital (MBGH), Udaipur, from November 2017 - June 2018. Approval for the study was obtained from Institutional Ethics Committee.

After taking an informed consent, the clinical characteristics of the patients were noted in a predesigned proforma. A complete history including age, sex, duration of the disease, family history was noted. The patients were thoroughly examined, and data such as pattern of vitiligo, sites of involvement were noted. Patients having acquired depigmentation due to infections, physical trauma, chemical injury, burns, nutritional deficiency, inflammatory dermatoses and drugs, and patients with other dermatological disease causing significant disfigurement or psychosocial morbidity, were excluded from the study. The extent of body surface area involvement was

measured by Wallace rule of nine and various clinical patterns were classified according to Vitiligo Global Issues Consensus.

MS Word Excel software was used to tabulate and analyze the data. The continuous data are presented as means and categorical variables are presented as frequencies and percentages.

Results

Out of total 210 patients, 117 were females and 93 were males. Females outnumbered males with female : male ratio being 1.26 :1.

Sociodemographic profile and clinical characteristics of the patients are tabulated in Table 1 and Table 2 respectively.

Table 1:Sociodemographic profile of vitiligo patients (n=210)

| Features | | n (%) |
|----------------------------|--------------------|------------|
| Age | <20 | 65 (30.9) |
| | >20-40 | 112 (53.3) |
| | >40-60 | 29 (13.8) |
| | >60 | 4 (1.9) |
| Gender | Males | 93 (44.3) |
| | Females | 117 (55.7) |
| Educational status | illiterate | 27 (12.8) |
| | Primary | 20 (9.5) |
| | Middle school | 53 (25.3) |
| | Secondary | 33 (15.7) |
| | Senior secondary | 27 (12.9) |
| | Graduate and above | 50(23.8) |
| Family history of vitiligo | Present | 45(21.4) |
| | Absent | 165(78.6) |

Table 2. Clinical characteristics of vitiligo patients

| | Features | n(%) |
|-----------------------|--------------|------|
| Duration(years) | | |
| | <=1 | 68 |
| | >1-5 | 71 |
| | >5-10 | 44 |
| | >10-15 | 9 |
| | >15 | 18 |
| Type | Focal | 38 |
| | Segmental | 7 |
| | Nonsegmental | 165 |
| Extent of involvement | <10 | 177 |
| | 10-50 | 26 |
| | >50-90 | 6 |
| | >90 | 1 |

Maximum (53.33%) patients belonged to age group >20- 40 years. A higher (65.71%) proportion of subjects were from rural background.

Majority of the patients were educated upto middle school (25.24%) followed by graduation or above (23.81%).

Majority (47.62%) of patients had age of onset > 20 yrs. Mean age of onset was 23.28 months. Patients with positive family history had earlier mean age of onset(21.02) as compared to the patients with no such history(23.89).

Majority (33.81%) of the patients had duration between >1 to 5 years at the time of presentation. Majority (40.86%) of males had duration of <1 year while majority of females had duration of > 1 to 5 years. Mean duration of disease was higher in females (6.63) compared to males (4.85). This was found to be significant statistically(p=0.08).

Family history was present in 21.43% patients. Almost equal familial predisposition was seen in both males (20.43%) and females (22.22%).

Most (78.57%) of the patients had non segmental form of vitiligo(Figure 1,Figure 2). Segmental form of vitiligo was (3.33%) least common(Figure 3) while focal lesions were seen in 38 (18.1%) patients(Figure 4). Majority (84.29%) of the patients had body surface area involvement < 10%. Only 1 male patient had involvement of >90% body surface area.



Figure 1: Nonsegmental form of vitiligo : Depigmented macules over dorsum of eyelids, hand and forearm in an acrofacial distribution.



Figure 2: Vitiligo patches in segmental distribution over lower back



Figure 3: Focal vitiligo : single depigmented macule on medial aspect of foot.

Discussion

A total of 210 patients attending the Department of Dermatology of MBGH, Udaipur, clinically diagnosed as vitiligo and fulfilling the inclusion criteria were included in the study.

The study revealed a relatively higher proportion of females; the ratio being 1.26: 1. Similar finding has been observed in some other studies.⁸⁻¹¹ However, a few studies¹²⁻¹⁵ have reported equal incidence of males

and females. Male preponderance^{16,17} has also been recorded. Higher proportion of female patients may be presumably because of social stigma and marital concerns which prompt females to seek early consultation^{10,11,18}

Majority (65.71%) of the patients had rural background in index study. Contrary to our study, a predominant urban population has been reported in a study.¹⁸ In our study, 25.24% (53/210) reported education upto middle school level followed by graduate and above level (50/210;23.81). In other studies, 15%⁹ and 40%¹⁷ of the subjects were educated upto college or above.¹⁶ In another study, 86.7% patients were literate while 13.3% were illiterate.¹⁹

In our study, 47.62% of patients had age of onset > 20 yrs. Mean age of onset was 23.28 years. Mean age of 28.9 years⁹ and 21 years⁸ has also been documented. Mean age of onset was almost equal in males (23.23 years) and females (23.32 years) (p=0.95). However, another study¹⁵ has reported mean age of 24.4 years in females and 19.7 years in males. Duration of disease in our study varied from 1 month to 45 years; mean duration being 5.84 years. Mean duration of disease in other studies has varied widely from 3.3 years¹¹ to 7.8 years.⁸ Longer duration has been attributed to slower rate of progression of disease in previous studies.^{11,18} Duration between 1 to 5 years was recorded for 33.81% of our patients. In another study¹⁶ also 32% patients had duration between 1 to 5 years. However, their 35.3% patients had <1-year duration. Mean duration of disease in females (6.63 years) was significantly higher (p=0.08) than males (4.85 years). This may be due to poor access to health care services, particularly by rural females, resulting in late presentation.

In our study, majority (78.57%) of the patients had nonsegmental form of vitiligo followed by focal and

segmental. Most of the previous studies have documented vitiligo vulgaris^{11,13,18} and acrofacial vitiligo^{9,15} to be the most common type. These were included under non segmental form in our study. Incidence of segmental vitiligo has been reported as 1.4% to 6.84% in different studies^{11,15,18}. In index study, it was found to be 3.3%. Focal form of vitiligo was found 18.10% of patients which is consistent with another Indian study.¹⁸ A higher incidence of 28.5% for focal vitiligo has also been reported.¹¹ Variation in incidence of focal vitiligo may be explained by the fact that focal vitiligo is a diagnosis of exclusion²⁰ and most of the patients beginning with focal vitiligo progress to different phenotype of vitiligo as the disease progresses.¹⁵ Majority (84.29%) of the patients had < 10% body surface area involvement. In another study¹⁶, <10% body surface area was affected in 80% patients, a finding almost similar to ours. Only 1 male patient had involvement of >90% body surface area in present study. A mean body surface area of 12 % has also been reported (range: 1 to 70%)¹⁷

Familial occurrence in vitiligo has been reported to vary from 6.25- 30%.¹¹ In this study, familial occurrence was recorded in 21.43% patients. This is in accordance with other studies where almost similar proportion of patients had positive family history ranging from 19% to 21.93%.^{8,11,15}

Conclusion

Vitiligo affects both genders with slight female preponderance and all age groups irrespective of differing geo-environmental, living conditions and lifestyles, or ethnicities, has onset at early adulthood, and is slowly progressive in most cases. Patients with an affected first-degree family member may have more chances of onset at an early age compared with others

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