Research Article

A study of clinical features and associated comorbidities in vitiligo patients diagnosed in a tertiary care center

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Abstract

Introduction: Vitiligo is an acquired depigmentary condition caused by inactivation or destruction of melanocytes in epidermis and hair follicle. The incidence of 1% has been reported worldwide; similar to various dermatological clinics in India. **Aim:** To evaluate the clinical features of vitiligo patients with associated comorbidities. **Materials and Methods:** A total 353 patients of vitiligo attended in outpatient department at RIMS Medical College, Ongole, were included in this study. Detail history and clinical examination of patients were done. **Results:** Among 353 patients 59.4% were females and 40.6 % were males. Vitiligo vulgaris (57.5%) was most common morphological type. Most common site of involvement (74.7%) was lower limb. Family history was present in 17.8% patients. **Conclusions:** Vitiligo constitutes important dermatological and differs substantially in various clinical aspects.
Keywords: co-morbidities, vitiligo.

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INTRODUCTION

Vitiligo is a common disorder of skin pigmentation. Vitiligo is an acquired depigmentary condition caused by inactivation or destruction of melanocytes in epidermis and hair follicle. Vitiligo is a common pigmentary disorder seen in our country.[1] It is an idiopathic, acquired, circumscribed hypomelanotic/demelanotic skin disorder, characterized by milky white patches of different sizes and shapes. The prevalence rages from 0.1% to 4%.[2] The incidence of vitiligo is found to be 0.25-2.5% in India.[3] The various theories about its etiology are autoimmune, genetic, autotoxic (melanocyte), neural and biochemical explanations.[4] The autoimmune etiology seems most plausible; this theory is based on observation of the simultaneous occurrence of vitiligo and autoimmune diseases such as pernicious anemia, rheumatoid arthritis, addison's disease, diabetes mellitus, thyroiditis and alopecia areata. Autoimmune diseases typically involve interactions between genetic risk factors and environmental triggering factors. In vitiligo, the main environmental triggering factors are poor nutrition, emotional stress, trauma, drugs, infections, exposure to the sun and chemicals, toxins and sepsis.[5] The diagnosis of vitiligo depends on history and physical examination, which reveals depigmented skin patches or lesions. In some lightly pigmented patients, a Wood's lamp can be useful for highlighting areas of pigment loss. The treatment of vitiligo is medical therapies including photochemotherapy, phototherapy along with ultraviolet B radiation, topical steroids, systemic steroids, topical immunomodulators, vitamin D3 analogs and excimer laser.[6] The aim of this study was to evaluate the clinical features and its associated comorbidities in patients of vitiligo.

OBJECTIVE

To evaluate the clinical features and its associated comorbidities in patients of vitiligo.

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MATERIAL AND METHODS

The present cross sectional study performed among 353 vitiligo patients who attended the dermatology outpatient clinic of RIMS Medical College, Ongole. All vitiligo patients were enrolled in the study with no exclusions based on sex, nationality, city of residence, or socioeconomic status attending the clinic. The diagnosis of vitiligo was made clinically. The data collection of relevant clinical features and other data on sex, age of vitiligo onset, each patient's Fitzpatrick skin type, family history of vitiligo, family history of premature graying of scalp hair, associated diseases, precipitating factors, location of the first lesion, type of vitiligo and location of lesions was recorded. The research proposal was approved by the Research Ethics Committee of the General Hospital. Apart from routine blood and urine examination, blood sugar and thyroid function test were done whenever necessary. In the study data analysis was done using appropriate statistical methods.

RESULTS

Table 1: Age and sex distribution of patients

Age group (years)	Female	%	Male	%	Total	%
1-10	10	02.83	11	3.12	21	5.95
11-20	40	11.33	32	9.07	72	20.40
21-30	54	15.30	30	8.50	84	23.80
31-40	42	11.90	26	7.36	68	19.26
41-50	33	09.35	19	5.38	52	14.73
51-60	19	05.38	13	3.68	32	9.06
61-70	09	02.55	07	1.98	16	4.53
>70	03	00.85	05	1.42	08	2.27
Total	**210**	**59.49**	**143**	**40.51**	**353**	**100**

The age distribution of vitiligo patients ranges from 1to 79 years. Majority of patients were in age group 21-30 years (23.80%) followed by age group 11-20 years (20.40%). In the study among 353 patients, female patients were 210 (59.49%) and male patients were 143 (40.51%). [Table 1]

Table 2: Distribution according to duration of illness

Duration of Illness	Male	%	Female	%	Total	%
< 1	05	1.42	12	3.40	17	4.82
1-5	88	24.92	109	30.88	197	55.82
5-10	24	6.80	43	12.18	67	18.98
10-15	11	3.12	24	6.80	35	9.92
>15	15	4.25	22	6.23	37	10.48
Total	**143**	**40.51**	**210**	**59.49**	**353**	**100**

The majority of patients of vitiligo show duration of illness between 1 to 5 years (55.82%). The 37 (10.48%) vitiligo patients had illness more than 15 years while only 17 (4.82%) patients had illness less than 1 year. (Table 2)

Table 3: Distribution according to Family History

Relation	No. of Patients (n=353)	Percentage
Father	09	2.55
Mother	34	9.63
Both (F/M)	07	1.98
Brother	06	1.70
sister	07	1.98
Total	**63**	**17.85**

In the study among 353 patients of vitiligo, 34(9.63%) patients shows family history of vitiligo in mother while 7 (1.98%) patients gave history of vitiligo among both parents. [Table 3]

Table 4: Distribution according to Type of Vitiligo

Relation	No. of Patients	Percentage
Vitiligo vulgaris	203	57.51
Acrofacial	96	27.20
Segmental	24	6.80
Universal	21	5.95
Mucosal	09	2.54
Total	**353**	**100**

The majority of type of vitiligo was observed as vitiligo vulgaris (57.51%) among the patients. The other types were acrofacial (27.20%) followed by segmental (6.80%). (Table 4)

Table 5: Distribution according to Site of vitiligo

Site	No. of Patients (n=353)*	Percentage
Scalp	56	15.86
Face	169	47.87
Upper Limb	241	68.27
Lower Limb	264	74.79
Trunk	162	45.89
Genitals	24	6.80

(* Multiple response found)

The distribution of vitiligo was found all over the body. The vitiligo was found maximum on the lower limb (74.79%) followed by upper limb (68.27%). Among the 353 patients, 24 (6.80%) patients shows vitiligo on the genitals.

Table 6: distribution according to associated Co-morbidities

Relation	No. of Patients (n=353)*	Percentage
Thyroid Disorders	45	12.75
Diabetes Mellitus	31	8.78
Rheumatoid Arthritis	11	3.12
Cardiac Problems	28	7.93
Others	56	15.86

(* Multiple response found)

The majority of co-morbidities found among patients were thyroid disorders (12.75%). The other co-morbidities were diabetes mellitus (8.78%), Rheumatoid arthritis (3.12%) and cardiac problems (7.93%). The other

co-morbidities were SLE, skin disorders, pernicious anemia etc.

DISCUSSION

The present cross sectional study performed among 353 vitiligo patients who attended the dermatology outpatient clinic of RIMS Medical College, Ongole to evaluate the clinical features and its associated comorbidities in patients of vitiligo. In the study, majority of patients were in age group 21-30 years (23.80%) with female dominance (59.49%). The findings of present study was in accordance with other studies that the disease occurred predominantly in female patients.[3,7] In contrast, the other studies reported that vitiligo occurs predominantly in male individuals.[8,9] The discrepancy has been attributed to a presumed increase in reporting of cosmetic concerns by female patients. A positive family history of vitiligo was reported by 63 (17.84%) of our patients. This was a slightly higher percentage than the 7.5–21.93% reported by several other studies.[3,7] Vitiligo vulgaris (57.51%) was most common type observed in our study which is similar with other studies.[3,10] This indicates that the process of depigmentation, either immune-mediated or toxic may occur simultaneously or subsequently at various unrelated distant sites. In our study, lower extremities were the commonly involved site in majority (74.79%) of patients. Most common site of onset was lower extremity this finding also similar with study by Shajil *et al*.[3] However, Gao *et al*.,[11] shows most common site is back. In our study most common co-morbidity thyroid disease was found to be in 12.75% patients. The other co-morbidities were diabetes mellitus (8.78%), Rheumatoid arthritis (3.12%) and cardiac problems (7.93%). Similar findings were seen in study done by by Martis *et al*.[10] were thyroid disease was seen in 7.8% patients.

CONCLUSION

Thus, we conclude from present study that vitiligo occurred more commonly in female individuals and with family history of vitiligo. Vitiligo was commonly associated with thyroid disorders. This research has raised many questions in need of further investigation to find the association between vitiligo and auto immune disorders.

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