ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 03 | March - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

CLINICAL PATTERNS OF VITILIGO AND ITS ASSOCIATIONS WITH COEXISTING DISEASES: A PROSPECTIVE STUDY.

Dermatology

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ABSTRACT

Background: Vitiligo is an acquired depigmenting disorder characterised by selective loss of melanocytes manifesting as white macules and patches on the skin and mucous membranes. An interplay among genetic, environmental, neural, and autoimmune mechanisms may be involved in its pathogenesis. There are many coexisting cutaneous and systemic conditions with vitiligo which if diagnosed early and treated may decrease the burden on the patient. Aims and objectives: To evaluate the clinical profile and the coexistence of cutaneous, systemic diseases in vitiligo patients. **Methods:** A descriptive study was conducted in the department of DVL at Santhiram Medical College and Hospital from April 2021 to March 2022. Data from 100 vitiligo patients were recorded and analyzed. Results: The majority of patients belonged to the age group of 21-30 years (30%). Females were 54% and males were 46% of the study population. The majority of patients were of Vitiligo Vulgaris type (54%). A family history of vitiligo was present in 20% of cases. Koebnerization was seen in 28% and leukotrichia in 38%. Cutaneous comorbidities were observed in 14% of the study population with urticaria (6%) being the most common followed by canities premature (5%), alopecia areata (2%) and psoriasis (1%). Systemic comorbidities were observed in 50% of the study population with few patients having more than one systemic disease. Anaemia (24%) was the most common followed by hypothyroidism, diabetes mellitus and hypertension. Conclusion: Association of vitiligo with other coexisting diseases emphasizes the need for a comprehensive history, cutaneous, systemic examination and pertinent investigations. Treatment related to these conditions and regular follow-up aid in reducing disease burden.

KEYWORDS

Vitiligo, Leukotrichia, Koebner's Phenomenon, Coexisting Diseases.

INTRODUCTION:

Vitiligo is an acquired pigmentary disorder of the skin and mucous membranes due to the selective loss of melanocytes clinically characterized by well-circumscribed achromic macules and patches. It is the most common depigmenting disorder affecting 1% – 2% of the population worldwide with equal prevalence irrespective of race and ethnicity with highest incidence in the Indian subcontinent followed by Mexico and Japan.[1] Although the exact etiology of vitiligo is still unknown, there are many potential pathophysiological theories involving complex interplay among autoimmune, neural, autocytotoxic, biochemical, oxidative stress, melanocytorrhagy, and decreased melanocyte survival hypotheses.[2]

Vitiligo is often dismissed as a cosmetic problem, although its effects can be psychologically devastating, often with a considerable burden on daily life.[3] Vitiligo Global Issues Consensus Conference in 2011 has categorized vitiligo into segmental vitiligo (SV), non-segmental vitiligo (NSV), and mixed vitiligo (MV) based on clinical parameters.[4] Many cutaneous and systemic diseases have been reported to be associated with vitiligo.[5] Cutaneous disorders like alopecia areata, canities premature, urticaria, morphea, scleroderma, lupus erythematosus, lichen planus and psoriasis. Also, systemic disorders like diabetes mellitus, thyroid disorders, pernicious anemia, rheumatoid arthritis, and hypertension have been associated with vitiligo.[5]

AIMS AND OBJECTIVES:

To evaluate the clinical profile and the coexistence of cutaneous and systemic disorders in vitiligo patients.

MATERIALS AND METHODS:

A prospective descriptive study was conducted from April 2021 to March 2022 with a total of 100 vitiligo patients in the outpatient department of DVL, Santhiram Medical College and General Hospital, Nandyal after obtaining Ethical clearance from the institutional ethics committee. After diagnosing the patients clinically, they were explained the study's protocol. The patients willing to give informed written consent were included while patients who are unable to understand the protocol and unwilling to give informed written consent were not enrolled in the study. For all the patients in the study, a comprehensive history, systemic and cutaneous examination were done and recorded in a prestructured proforma. Digital photographs of lesions were taken.

The percentage of Body Surface Area (BSA) involved was calculated based on the 'rule of nine'. Vitiligo Disease Activity (VIDA) scoring based on patient's opinion on the present disease activity over time was also done. Investigations including a complete blood picture along with peripheral smear, thyroid profile, lipid profile, serum creatinine, fasting blood sugar and postprandial blood sugar were done. Additional investigations were done as and when required. Descriptive statistics were used to present the data.

RESULTS:

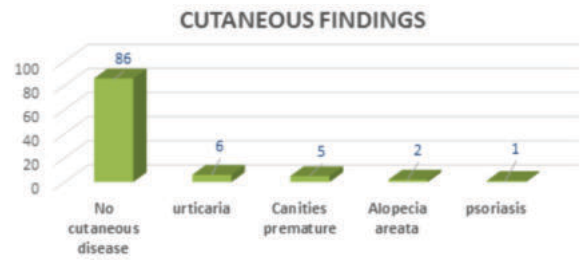
In this study of 100 patients, the majority belonged to the age groups 21-30 years (30%) followed by 31-40 years (20%). The age of the youngest patient was 5 years, and that of the oldest was 68 years. The mean age of the patients in this study was 32.5 years. In this study, 54 were females and 46 were males.

The majority of the cases were of Vitiligo Vulgaris type (54%) followed by acrofacial (20%), focal (12%), mucosal (4%) segmental (4%), Universal (4%) and genital vitiligo (2%) (table1). Family history of vitiligo was present in 20% of the study population and first-degree relatives were the most commonly affected (100%). Leukotrichia was present in 38% and Koebnerization in 28% of the study population. VIDA scoring of greater than zero was observed in 60% of the study population. In this study, 29% of patients had less than or equal to 10% of BSA followed by 45% of cases with 11-50% BSA involvement, 22% of cases with 51-80% of BSA and 4% with greater than 80% of BSA involvement.

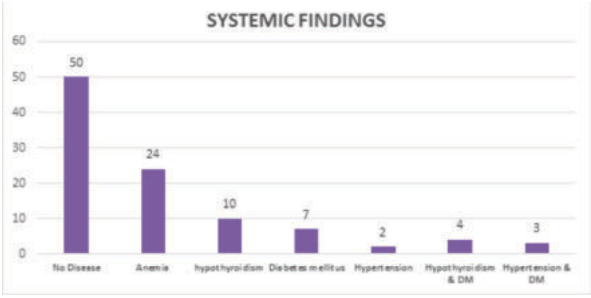
In this study, 14% of cases had coexisting cutaneous diseases with Urticaria (6%) being the most common, followed by Canities premature (5%), Alopecia Areata (2%) and Psoriasis (1%) (graph1, figure1). In this study, 50% of the study population had systemic comorbidities. Iron deficiency anaemia was the most common (24%) of cases, followed by Hypothyroidism (15%), Diabetes mellitus (14%) and Hypertension (5%) (graph2).

Table 1: Clinical types of Vitiligo

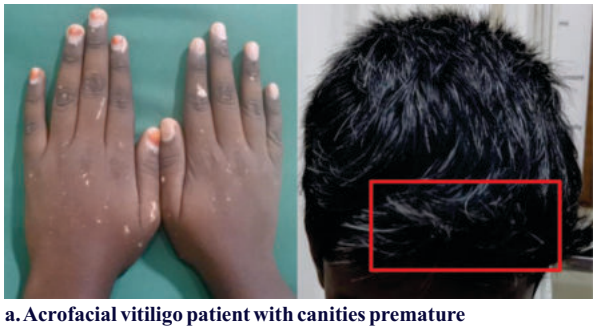
CLINICAL TYPE OF VITILIGO	PERCENTAGE
Vitiligo Vulgaris	54
Acrofacial Vitiligo	20
Focal Vitiligo	12
Mucosal Vitiligo	4
Segmental Vitiligo	4
Vitiligo Universalis	4
Genital Vitiligo	2



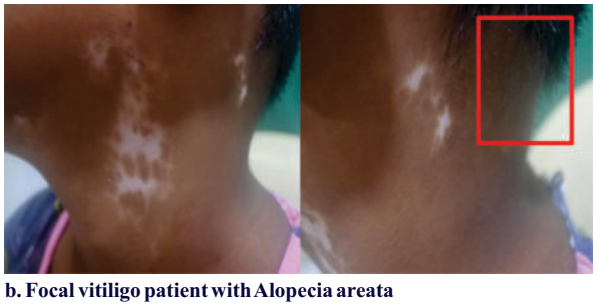
Graph 1: Cutaneous findings among Vitiligo patients



Graph 2: Systemic findings among Vitiligo patients



a. Acrofacial vitiligo patient with canities premature



b. Focal vitiligo patient with Alopecia areata

c. Vitiligo vulgaris patient with Psoriasis

Figure 1. Coexisting Cutaneous diseases in Vitiligo patients.

DISCUSSION:

In this study, 100 vitiligo patients were divided into seven age groups. The majority of the patients were in the age group of 21-30 years (30%), followed by 31-40 years (20%). Similarly, in a study done by Dudeja et al, the most common age group was 21-30 years (33.8%) followed by 31-40 years (20.8%).[5] The average age of the patients with vitiligo was 32.5 years and the minimum and maximum ages were 5 and 68 years respectively. This was similar to Kavya et al (32.53 years) study.[4] In this study, 54% were females and 46% were males with female-to-male ratio of 1.17:1.[4] Similar findings were observed in Dudeja et al. study where females were 51.5% and males were 48.5% with a female-to-male ratio of 1.06:1.[5]

In the present study, the majority of the cases were vitiligo vulgaris type (54%) followed by Acrofacial (20%), Focal (12%). These were similar to the findings in Kavya et al. study.[4] Mucosal, Segmental and Universal vitiligo were seen in 4% of cases each in this study. The family history of vitiligo in the present study was 20%, similar to Shankar et al (20%) study. Leukotrichia was observed among 38% of the study population**,** similar to Kavya et al (34%) study.[4] Koebner's phenomenon was observed in 28% of the study population, which was higher than Kavya et al (20%) study.[4] Vitiligo Disease Activity (VIDA) scoring of greater than zero was observed in 60% of the study patients.

A variety of cutaneous diseases were seen in patients with vitiligo in this study. Urticaria was observed in 6% of vitiligo cases which was greater than that of Kavya et al (4%) study.[4] Alopecia areata was seen in 2% of cases which was consistent with Kavya et al (2%)[4] . Psoriasis was seen in 1% of vitiligo cases which was almost similar to Kavya et al (2%) study.[4] Mahajan et al observed a much higher percentage of Psoriasis (13.79%) among their study cases.[7] A lower percentage of Psoriasis was observed in Dudeja et al (0.8%) study.[5]

In this study of 100 vitiligo patients, 50 had coexisting systemic diseases and 8 out of them had multiple diseases. The most common systemic comorbidity seen in this study was iron deficiency anemia, which was 24% of cases. This was almost similar to the studies done by Kavya et al (20%)[4] and Gopal et al (20%).[8] The thyroid disorder seen in this study was Hypothyroidism. It was observed in 15% of the study population which was almost similar to Kavya et al (12%) study.[4] The percentage of Hypothyroidism in our study was higher when compared to Dudeja et al (7.69%).[5] Diabetes mellitus was present in 14% of cases in this study. The percentage of diabetes mellitus in our study was lower when compared to a survey by Gopal et al (16%).[8] A higher percentage of Diabetes mellitus was observed in our study when compared to Kavya et al (10%) and Dudeja et al (3.07%).[4,5] Hypertension was seen in 5% of cases in this study, which was more than Kavya et al (2%) study.[4]

CONCLUSION:

A significant number of the vitiligo patients had coexisting systemic and cutaneous diseases. Therefore, all vitiligo patients irrespective of the duration of illness or morphology must undergo a thorough history, clinical examination and investigation for coexisting cutaneous and systemic disorders, for their early detection and timely interventions.

Source of Support: None Declared
Conflict of Interest: None Declared

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