

Profile of Vitiligo in Western Nepal

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Abstract

Background

Vitiligo is common worldwide. The highest incidence is reported from Indian subcontinent. However, there are only few studies available on epidemiology of vitiligo from Nepal

Objective

To determine the clinical patterns of vitiligo, the associated socio-demographic factors and its associated disorders among patients attending dermatology outpatient department of Manipal Teaching Hospital, Gandaki Medical College Teaching Hospital and Fishtail Hospital and Research Center Pokhara.

Methods

All patients presenting with signs and symptoms suggestive of vitiligo over a period of one-year (from march 2009 to march 2010) at the out-patient clinics in the Dermatology Department of Manipal Teaching Hospital, Gandaki Medical College Teaching Hospital and Fishtail Hospital and Research Center, Pokhara were included in the study. Socio-demographic details regarding age, sex, marital status, education and occupation were recorded. A detailed clinical history related to the presenting complain and clinical examination findings were recorded. Relevant available investigations were ordered based on signs and symptoms to determine if any associated disorders.

Results

Two hundred and twenty four patients with clinical diagnosis of vitiligo were studied. Males constituted 102 (45%) patients and females 122 (55%) of the total number of patients. Duration of disease at the time of presentation ranged from two weeks to 40 years. The lower limb was the initial site of onset of vitiligo in majority 77 (34.37%) of the patients, followed by the upper limbs, head and neck, trunk and mucosae in decreasing order of frequency. The commonest clinical pattern found was vitiligo vulgaris followed by acrofacial, segmental and mucosal types. Lesions showing leukotrichia were observed in 40 (18.87%) patients and koebnerization was observed in 42 (18.75%) patients. Eleven children had halo nevi. Associated abnormalities included alopecia areata (13 patients), diabetes mellitus (12 patients) and one patient had atopic dermatitis. A positive family history was obtained in 14(6.25%) of the patients.

Conclusion

Vitiligo vulgaris is one of the common clinical-type skin disorder observed in Nepal. There were associated disorders/abnormalities in some patients such as alopecia areata, diabetes mellitus and atopic dermatitis.

Keywords

Clinical Profile, Vitiligo, Western Nepal.

Introduction

Vitiligo is an acquired, pigmentary disorder of skin, mucosa and hair characterized by well-circumscribed, asymptomatic milky white patches devoid of melanocytes. It affects 0.1 - 4% of the world population¹. Vitiligo occurs in all races, affects both sexes, and can develop at any age. The destruction of melanocytes is the cause of depigmented maculae that clinically represent the disease vitiligo^{2,3}. Familial aggregation is often reported, suggesting its inheritance. Theories concerning the cause of vitiligo have concentrated on four different mechanisms: autoimmune, autocytotoxic, oxidant-antioxidant and neural. The disorder has been reported in association with several endocrinopathies and other autoimmune conditions⁴.

Methods

Manipal Teaching Hospital, Gandaki Medical College Teaching hospital and Fishtail Hospital and Research Center are tertiary care hospital catering a sizeable population of western Nepal. This was a prospective study and the data were collected from March 2009 and March 2010. All new patients with vitiligo were recruited. Diagnosis was made by dermatologists and was clinical. A complete history regarding age, family history, site of onset, duration, and past treatment was taken. A thorough clinical examination was done, and the site and pattern of the lesions were noted as was the activity of the disease as evidenced by the appearance of new lesions and increase in the size of existing lesions over the past six months. The cases were classified into six groups according to the standard working classification of clinical types of vitiligo⁵. Presence of leukotrichia, Koebner phenomenon, and halo nevi were noted. Screening was also done for autoimmune and endocrine disorders by history and clinical examination; these disorders included thyroid disease, diabetes mellitus, pernicious anemia, Addison's disease, connective tissue diseases and alopecia areata. Investigations including complete haemogram, erythrocyte sedimentation rate, peripheral smear, blood sugar level, Thyroid function test were done for all patients, antinuclear antibodies was done in selected patients. Anti - thyroid antibodies were not done due to unavailability.

Results

Out of 10,492 new patients examined, 224 new patients were diagnosed as having vitiligo (2.14%). The total number of males with vitiligo was 102 (45%) and the total number of females

were 122(55%). The duration of the disease at the time of presentation ranged from 15 days to forty years.

The number of patients with active disease (appearance of new lesions or increase of the size of existing lesions within six months) was 170 (75%). Koebner phenomenon was found in 42 patients (18.75%) of the total vitiligo patients. The number of patients with positive family history was 14 (6.25%). The site of onset of vitiligo lesions in patients is shown in Table 1. The most common site of onset was lower limbs followed by, upper limbs, trunk, head and neck, genitalia and mucosae. Halo nevi were seen in twelve patients; ten of them were children. Lesions of vitiligo showing leukotrichia of the overlying hair in hair bearing areas were observed in 44 (19.6%) patients.

The distribution pattern of lesions which denotes the clinical types of vitiligo is shown in Table 2. Vitiligo vulgaris (generalized vitiligo) showing scattered circumscribed macular depigmented lesions was the most common type, followed by focal, acrofacial, mucosal and segmental types. All cases with mucosal vitiligo were girls, having involvement of the genital mucosa. Out of the seven cases with segmental vitiligo, four cases had vitiligo involving the face. Patients with vitiligo having other associated conditions are summarized in Table 3. Insulin dependent diabetes mellitus was seen in twelve patients. Alopecia areata was seen in thirteen patients and atopic dermatitis was observed in one patient. None had abnormality in thyroid function test.

Discussion

Many studies indicate that vitiligo is mostly acquired early in life. Our study shows that a sizeable number of patients (86 out of 224 new patients) have their onset of vitiligo between 21 to 30 yrs of age. Female preponderance was observed in our study. Kovacs⁵ also referred to a preponderance of females among patients with vitiligo. In a study on Indian patients, Handa and Kaur stated that 54.5% of cases were men⁶.

Table 1: Site of onset of vitiligo

<u>Site of onset</u>	<u>Number of cases</u>	<u>Percentage</u>
Head and neck	38	11.96
Trunk	36	16.07
Lower limbs	77	34.37
Upper limbs	55	24.55
Mucosa & genitalia	16	7.14
Total	224	100

We feel that the observed female preponderance in our cases is presumably for two reasons; first, the higher cosmetic concern among female patients and the relatively more time they have for long-term therapy allowing them to seek active treatment more often; and second, males being relatively unconcerned to consult for the treatment. Hann *et al* reported that family history was present in 13% of their patients⁹. In a study from India by Handa and Kaur, 11.5% of patients had a family history of vitiligo⁶. In our study, a positive family history was present in 6.25% of the patients. The lower limbs were found to be the site initially developing depigmentation in the majority of our patients, followed by upper limbs, trunk, head and neck, and the mucosae. Handa and Kaur⁶ reported that sites of onset were the face, trunk, and legs in descending order of frequency. The exact significance of this observation is difficult to appreciate. However, we feel that trauma prone sites like the lower legs and the hands may develop vitiligo lesions more easily in genetically predisposed persons and may be the sites of onset of disease more often. Generalized vitiligo (vitiligo vulgaris), characterized by multiple, bilateral, symmetrical lesions involving upper and lower limbs and trunk, was the most commonly seen clinical type in our patients. This was followed by focal vitiligo, acrofacial vitiligo, muvitiligo and universal vitiligo types. Hann *et al* broadly classified their patients as having segmental or non-segmental vitiligo and observed non-segmental vitiligo in 79.5% of their patients⁹. Kovacs also reported that generalized vitiligo is the commonest presentation⁵. Handa and Kaur reported that vitiligo vulgaris was the commonest type seen followed by focal vitiligo and segmental vitiligo⁶. Many lesions in hair bearing areas show leukotrichia of the overlying hair and such lesions were seen in 40 (17.87%) of our patients.

Leukotrichia was seen in 43.5% of South Korean patients [9] and in 11.5% of Indian patients⁶. Koebnerization was observed in 42 (18.75%) of our patients. Others have reported it in 21% and in 5% of their patients respectively^{6,9}. Halo nevi were seen in eleven children and two adults. Halo nevi were seen in only 2.5% of the children in the study from Korea¹⁰ while Handa *et al*¹¹ observed halo nevi in 4.4% of the children. We believe that halo nevi co-existing with vitiligo lesions are not commonly seen in adult onset vitiligo. Association of vitiligo with other diseases/ abnormalities has also been a subject of great interest. We also observed an association of vitiligo with cutaneous diseases like alopecia areata (13 patients), atopic dermatitis (one patient) and, with systemic disorders like diabetes mellitus (12 patients). Handa and Kaur⁶ observed atopic/nummular eczema in 1.4%, alopecia areata in 0.4%, bronchial asthma in 0.7%, diabetes mellitus in 0.6% and thyroid disease in 0.5% of

their patients.

Table 2: Age wise percentage of the pattern of distribution of vitiligo lesions

<u>Pattern of distribution</u>	<u>Number of cases</u>
Vulgaris	81(36.16%)
Focal	49(21.87%)
Acrofacial	48(21.42%)
Segmental	28(12.5%)
Mucosal	17(7.58%)
Total	224(100%)

Table 3: Association of vitiligo with other diseases

<u>Associated disease</u>	<u>Number of cases</u>	<u>Percentage</u>
Alopecia Areata	13	5.80
Diabetes mellitus	12	5.35
Atopic dermatitis	01	0.44

Kovacs also stated that patients with vitiligo have an increased risk of developing autoimmune diseases⁵. He also noted that autoantibodies against different organ systems can be present in vitiligo patients without clinical correlation. A landmark study, including children as well as adults, was reported in 1994⁴, which discussed whether the association of other diseases with vitiligo is co-existence or a true association. This study could not confirm a higher prevalence for thyroid diseases or any other autoimmune disease for childhood vitiligo. They did not find a higher prevalence of auto-antibodies in their series; however, they concluded that as a developing group, vitiligo patients are at higher risk of developing thyroid disease with impaired function; association with other diseases is a random event. Alkhateeb *et al* have stated that the frequency of six autoimmune disorders is significantly elevated in vitiligo probands and their first-degree relatives; vitiligo itself, autoimmune thyroid disease, pernicious anemia, Addison's disease, systemic lupus erythematosus, and probably inflammatory bowel disease⁷. A recent article¹³ has reported the presence of thyromegaly, antithyroid antibodies and thyroid dysfunction in a significant number of children and adolescents with vitiligo. Discrepancy among various studies stresses on the need for more thorough studies on this aspect.

In conclusion, a clinico-epidemiologic study of vitiligo in Western Nepal shows that generalized vitiligo is the commonest clinical-type observed. There were associated disorders/abnormalities in some patients.

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