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A Clinical Study of Vitiligo at a Tertiary Care Centre of East India

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Abstract

Background: Vitiligo is a common skin problem affecting people globally. Though usually symptomless, it is associated with many taboos and social stigma in India. In this study, we analyzed the clinicoepidemiological profile of vitiligo patients visiting dermatology opd of a tertiary care centre of east India. *Aim:* A clinical study of vitiligo to know profile of patients suffering from vitiligo with associated cofactors. *Methods:* All patients of vitiligo visiting dermatology opd of All India Institute of Medical Sciences, Patna from March 2013 to February 2015, were included in the study. *Result:* Of 256 vitiligo patients included in the study, 51.5% (132) were males and 48.4% (124) were females. Most common morphological patterns noted were vitiligo vulgaris in 49.6% (127) patients. Most common site of onset was lower limbs in 26.56% (68) patients. Koebner phenomenon was present in 23.8% (61 cases). Leucotrichia was noted in 17.8% (46 patients). Most common associated condition noted was thyroid disorders in 6.6% (17) cases.

Keywords: Vitiligo; Bihar; Clinical Pattern.

Introduction

Vitiligo is an acquired pigmentary disorder of the skin caused by destruction or inactivation of melanocytes. It is characterised by milky white patches of different shapes and sizes. Though etiology of vitiligo has not been fully explained but significant role of genetic susceptibility, autoimmunity and oxidative stress has been implicated [1]. Prevalence of vitiligo varies from region to region and in different ethnic groups. In different studies worldwide, prevalence of vitiligo has been found to vary from 0.5 to 8% [2-5]. Different studies, carried out in different parts of India have reported prevalence rate of 0.25 to 2.5% [6-10]. Vitiligo lesions do not impair the capacity to work or expectancy of life but may cause significant influence on psychological and emotional well being of the patients. [11,12]. There are many prejudices and taboos associated with this disease that makes it a social embracement for the sufferers. In India, it is sometimes called as-sweth kusth (white leprosy) adding the stigma of leprosy to the disease. Bihar is a 3rd most populous state of India, located in the central part, with a population of 10.41 crores [13]. No study has been carried out to know the prevalence of vitiligo in this region of the country. The aim of our study was to know the prevalence, and clinical pattern of vitiligo that affects population of central part of India.

Material and Methods

This prospective and observational 2 year (24 months) study was done at All India Institute of Medical Sciences, Patna, Bihar, and a tertiary care health centre in central India. All patients of vitiligo visiting dermatology opd from March 2013 to February 2015 were included in the study. Aim of the study was to know clinical profile of patients suffering from vitiligo with associated cofactors. All new cases of vitiligo (diagnosed clinically or by Woods lamp) attending dermatology OPD were included in the study. Patients suffering from depigmented lesion secondary to burns, chemical injury, scarring, physical trauma and drug intake were excluded from study. Detailed history including socio-demographic profile of each patient was recorded in the performa prepared for this purpose. Specific emphasis was given on age of onset, duration of disease, site of onset, type of vitiligo, presence of

lecotrichia, presence of koebners phenomenon and clinical type of vitiligo and associated diseases. A complete history and physical examination was performed to note the characteristic of the disease and associated factors. The evolution of disease as evidenced by appearance of new lesions and the increased in the size of existing lesions, over past 3 months was noted. The clinical subtypes of vitiligo were classified as per Bordeaux classification given by vitiligo global issues consensus conference [13] into three groups, segmental, nonsegmental and unclassified vitiligo. Nonsegmental vitiligo was further classified as generalised, acrofacial, and mucosal and mixed vitiligo. Mucosal vitiligo was defined as involvement of the oral and/or genital mucosae. Acrofacial vitiligo referred to multiple, bilateral, symmetrical depigmented lesions involving acral parts of extremities and peri-orifical regions. Universal vitiligo corresponded to involvement of 80% or more body surface area. Focal vitiligo was defined as small, isolate depigmented non segmental lesion. Vitiligo vulgaris was defined as depigmented scattered lesions widely distributed and usually symmetrical. Segmental vitiligo corresponded to presence of one or more macules in a dermatomal distribution. Mixed vitiligo was defined as coexistence of segmental and non segmental vitiligo. Apart from routine blood examination, blood sugar and thyroid function test were done whenever necessary. Statistical package for social sciences SPSS version 14.0 was used to analyse the data.

Result

A total of 256 vitiligo patients were examined during the study. The accounted for 2.78 % of the total number new patients, who attended dermatology opd clinic during the study period. Among these, 51.5% (132) were males and 48.4% (124) were females. The male to female ratio was 1.06. Mean age at presentation was 24.5 year and age at presentation ranged from 3 months to 79 years. Most common morphological pattern noted was vitiligo vulgaris in 127 (49.6%) of cases followed by acrofacial 66 (25.8%), focal 29 (11.3%), segmental 27, (10.5%), mucosal 4 (1.6%), mixed 2 (0.8%) and universal 1 (0.4%) (Fig.-1). Most common site of onset was lower limbs in 26.56% (68) patients. This was followed by head and neck 24.60% (63), trunk 18.75% (48); mucosal 16.01% (41) cases, upper limb 14.06 (36) (Figure 2). Duration of vitiligo at the time of presentation ranged from 1 month to 50 years. Maximum number of patients had disease duration of 1 to 5 years (53.12%), at the of hospital visit (Fig.-3). A positive family history was observed in 37 (14.4%) of patients. It was observed that 136 (53.1%) patients had a body surface area involvement of less than 2 %, 76 patients (30.15%) had a body surface involvement of 2-5% and 44 patients (17.46%) had more the 5% body surface area involvement (Figure 4). Koebner phenomenon was present in 23.8% (61 cases). Leucotrichia was noted in 17.8% (46 patients). Other associated conditions that were noted in our study included alopecia areata in 2.6%, psoriasis 0.8%, eczema 3.1%, halo nevus in 1.1%, lichen planus 0.3% and thyroid disorders in 6.6% cases (Table 1)

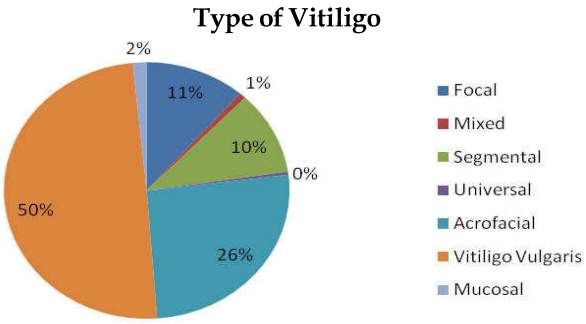

Fig. 1: Chart showing type of Vitiligo

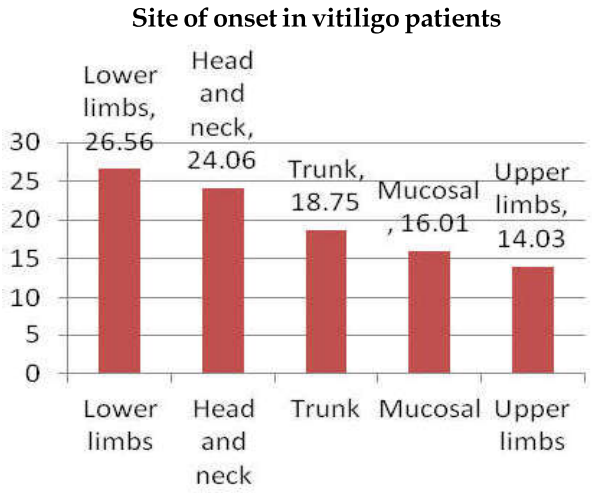

Fig. 2: Chart depicting site of onset of vitiligo

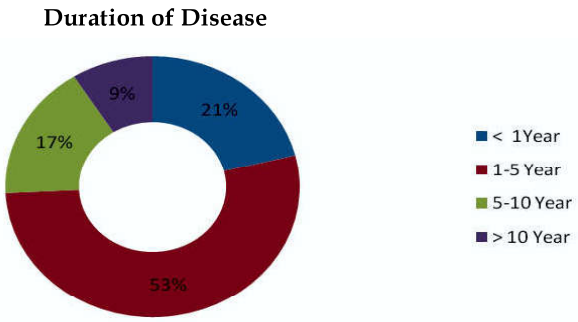

Fig. 3: Duration of Disease

Table 1: Associated Conditions

Alopecia Areata	**6 (2.4%)**
Thyroid Disorder	17 (6.6%)
Eczema	8 (3.1%)
Halo nevus	3 (1.1%)
Lichen Planus	1 (0.3%)
Psoriasis	2 (0.8%)
Diabetes	11 (4.3%)
Atopic Dermatitis	4 (1.6%)

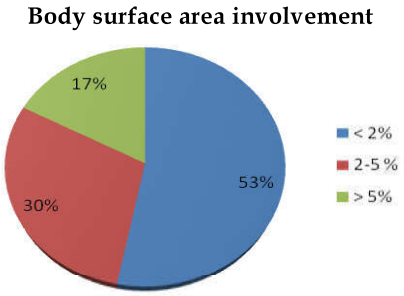

Fig. 4: Chart showing body surface area involvement

Discussion

Vitiligo is an acquired depigmentary disorder that is caused by loss of melanocytes, the pigment producing cells of skin. It presents as chalky white spots over skin which are more noticeable in dark skin people. It causes many social and psychological problems especially in regions with dark skinned people as they are more noticeable. The exact etiology of vitiligo is still not known.

Prevalence of vitiligo varies from country to country and from region to region and in different ethinic group. In our study the prevalence was 2.78%. Most studies from India have reported prevalence of 1-3% [6,7,8,9,10]. All these studies are hospital based studies. A community based study from China found the prevalence to be as low as 0.56% [2]. A Korean study showed annual prevalence of vitiligo determined by hospital visiting rate to be 0.12% to 0.13% over a period of three years [15].The varying ethnic backgrounds of the population residing in different geographic region with varying environmental conditions may contribute to the wide variation in the prevalence in India. The incidences of vitiligo reported in other studies are 2.5% by Handa and Kaur, 1.84% by Martis et al and 1.4% by Sehgal [6,16,17].

Male to female ratio in our study was 1.2. Most of other studies report near equal incidence in males and females [8,18,19]. A study conducted by Handa and Kaur reported female to male incidence of 1.2 [6]. The predominance in females could be attributed to higher aesthetic concern among female population [20]. In males, focal and acrofacial variants were more common where as in females, vitiligo vulgaris was more commonly reported. The number of females affected with vitiligo was higher than males in our study. This may be because of earlier reporting by female patients because of more concern and matrimonial issues. Most of the Indian studies have documented similar result of higher prevalence in female population [9,16]. In contrast to above studies Handa et al found higher prevalence of vitiligo in male population [6].

The duration of disease ranged from 3 months to 50 years with a mean duration of 6.4±8.1 years. Most of the cases (74.1% patients) had disease duration of less than 5 years. Progressive disease was reported in 59.2% patients at the time of presentation. Asyptomatic nature and slow response to medications could be the reason for long duration of the disease. The longer duration of disease could be attributed to the slow progressive nature of the disease and slow response to most of the therapeutic modalities available. Most other studies have reported similar mean duration of disease ranging from 1-5 years [6,8,9]. Disease duration of less than 1 year was present in 21.1%, where as 8.9% patients presented with disease duration of greater than 10 years. 16.8% patients had disease duration between 5-10 years.

Most common clinical type of vitiligo noted in our study was vitiligo vulgaris (127 patients,49.6%). This was followed by acrofacial, focal, segmental, mucosal, mixed and universal. Vitiligo vulgaris has been reported as commonest type of vitiligo in various studies [3,6,9,16]. In contrast, very few studies have reported acrofacial to be the commonest type of vitiligo [8,21]. A study from Japan reported segmental as second most common type of vitiligo[23].

Most common age of onset in our study was 2nd decade (10-20 age group). There was wide variation in age of onset. It ranged from 3 months to 87 years. On comparing age of onset in male and females, we found that female patients presented more commonly 2nd decade where as male patients presented more commonly in 3rd decade. Age of onset was also found to be lower in cases of segmental vitiligo. Other

studies have also reported 2nd -3rd decade as most common age of onset [6,8,9,16]. Wide variation has also been reported in age of onset [2,18].

Family history was noted in 9.4% of patients. Most common type of vitiligo associated with positive family history was arofacial (3.2%), followed by segmental (2.8%), vulgaris (1.9%) focal (1.1%) and mucosal (0.4%). Zhang et al reported highest familial clustering of segmental vitiligo [2]. In most studies, family history in vitiligo patients varies from 8-20% [6,8,9,16]. A study from Pakistan has reported a high family history of 27.8%. [22].

Lecotrichia was noted in 7.5% of patients. Handa and Kaur reported incidence of lecotrichia to be 11.5% [6]. Vora et al reported lecotrichia in 33.5% of patients [9]. A study from Turkey reported leukotrichia in only 3.38% of patients [24]. Leukotrichia was associated most commonly with vitiligo vulgaris (3.4%) followed by segmental vitiligo (2.9%) and focal vitiligo (1.2%). Presence of lecotrichia is significant because it is associated with poor response to medical therapy. Koebnerisation was noted in 6.2% of patients. Koebnerisation was more common in progressive form of disease than in non progressive form. Incidence of koebneration phenomenon ranged from 5-31% in different studies [6,8,16].

Systemic diseases like hypo/hypertheroidism, diabeties, hypertension, pernicious anaemia, autoendocrinopathy, Sjogren syndrome can occur in patients of vitiligo. A retrospective population –based study conducted in Taiwan showed a significant association between vitiligo and several comorbid diseases, including alopecia areata, Hashimoto thyroiditis, myasthenia gravis, psoriasis, Graves' disease, Sjögren's syndrome, systemic lupus erythematosus and atopic dermatitis [25]. In our study, thyroid disorder was noted in 6.6% of patients. Incidence of thyroid disorders has been reported to vary between 0.2-9% in various studies [3,8,16]. Diabetes was noted in 0.8% of patients.

Various cutaneous diseases and findings like alopecia areata, halo nevus, atopic dermatitis, psoriasis, eczema, premature greying can occur in vitiligo [26, 27]. In our study vitiligo was associated with alopecia areata (2.4%), atopic dermatitis (2.6%), halo nevus (1.1%), eczema (3.1%), psoriasis (0.08%). Handa and Kaur reported alopecia areata in 0.4% and atopic dermatitis in 1.4% in their study [6]. Yazanpanath et al reported coincidence of vitiligo and psoriasis in 0.19% of patients. [28]

Though we didn't screen all patients for audiometric abnormality, 6.2% (16) patients reported impaired hearing, which was confirmed by test. Akay et al reported that sensineural hypoacusis was found in 37.7% of vitiligo patients [29]. In a study from south India hypoacusis was present in 10% of cases [30]. Melanocytes play an important role in hearing process as melanocytes reside in the cochlea and loss of these melanocytes leads to deafness [31].

Though the result of our study was similar to studies from other parts of India, this is first study on the clinical and epidemiological aspect of vitiligo from this part of India. A limitation of our study was that it was hospital based study which may not reflect the true prevalence rate of vitiligo in the general population.

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