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Clinico- epidemiological profile of vitiligo patients attending outpatient department of JNIMS

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Abstract
Background: *Vitiligo is an acquired depigmenting disorder characterized by amelanotic macules resulting from loss of melanocytes.*
Objective: *To study the clinico-epidemiological profile of vitiligo patients attending the outpatient department of JNIMS, Imphal, Manipur.*
Material and Methods: All new patients with vitiligo who attended the dermatology outpatient department of Jawaharlal Nehru Institute of Health Sciences (JNIMS), Imphal, Manipur between 1st January 2017 to 31st December 2017 were enrolled into the study. A proper clinical history with thorough examination and necessary baseline investigations were done.
Results: *A total of 91 cases were enrolled into the study accounting for 0.26% of the total dermatology outpatients. Male: female ratios were 1:1.02. Vitiligo vulgaris was seen in nearly half of the patients .The most common site of onset of vitiligo was noted in trunk. Associations with many other systemic diseases like thyroid disorder, atopic dermatitis, alopecia areata, immunobullous disorder and diabetes could be seen. Family history was positive in 5. Leukotrichia was observed in 35. Koebners phenomenon was seen in 20 patients.*
Conclusion: *In our study, vitiligo vulgaris is the most common type of vitiligo and common site of onset was in the trunk. Vitiligo is also found to be associated with thyroid disorder, atopic dermatitis, alopecia areata, bullous pemphigoid and diabetes.*

Introduction

Vitiligo is an acquired depigmenting disorder characterized by amelanotic macules resulting from loss of melanocytes[1]. It affects at least 1% of the population and is usually progressive over many years[2]. Inherited predisposition has been observed in about 30%-40% of the affected persons[3].

Among speculations concerning the etiology of vitiligo, an autoimmune mechanism has been especially popular. Other hypotheses include neurohumoral factors and self destruction of melanocytes by toxic intermediates generated during melanogenesis[4].

Vitiligo is essentially a cosmetic problem. The depigmentation may appear at any age regardless of sex or racial background. In 50% cases, it

develops before the age of 50 years [3,5]. Areas subjected to repeated friction and trauma are also likely to be affected e.g. the back of hands, feet, elbows, knees and ankles. The distribution is usually symmetrical. The hairs in the patches may sometimes be amelanotic. Spontaneous repigmentation is noted in 10-20% of patients, most frequently in sun-exposed areas.

Material and Methods

All new patients with vitiligo who attended the dermatology outpatient department of Jawaharlal Nehru Institute of Health Sciences (JNIMS), Imphal, Manipur between 1st January 2017 to 31st December 2017 were enrolled into the study. A detailed history with respect to the chief complaints, duration of illness, site of involvement, area involved, precipitating factors, any associated leukotrichia, progressions of the lesions, family history etc were documented in a pre set proforma for each patient. A thorough clinical cutaneous and systemic examination was carried out and documented in the proforma. The vitiligo patients were classified according to Bordeaux vitiligo global issues consensus conference classification and consensus nomenclature[6] into three groups, viz. nonsegmental, segmental, and unclassified vitligo. Nonsegmental vitiligo (NSV) was further classified as acrofacial, generalized, universal, mucosal (more than one mucosal sites), and mixed vitiligo. Unclassified vitiligo included focal and mucosal (one site in isolation). Acrofacial vitiligo was defined as multiple, bilateral, symmetrical depigmented macules involving acral region of the extremities and peri-orifacial regions. Vitiligo vulgaris was defined as scattered macules widely distributed usually symmetrical. Vitiligo was defined as universal if more than 80% body surface area was involved. Mixed vitiligo refers to concomitant occurrence of segmental and NSV. Mucosal vitiligo was defined as involvement of the oral and/or genital mucosae. Segmental vitiligo refers to one or more depigmented macules in a single or multidermatomal configuration. Focal vitiligo was defined as one or more depigmented macules in one area, but not in a dermatomal distribution. Baseline investigations like complete haemogram, blood glucose level, and thyroid profile were done in all patients.

Results

A total of 91 cases were enrolled into the study accounting for 0.26% of the total dermatology outpatients (35428). 45 patients were male and 46 patients were female with a male:female ratios of 1:1.02. Maximum of the patients were found to be from Imphal west district (31.9%) followed by Imphal East (21.9%) as indicated by table 1. The most common age group at the time of diagnosis was less than 25 years group in both the male and female followed by the 26-50 age group (table no. 2). Vitiligo vulgaris was the most common type of vitiligo seen in about 49.5% of patients followed by acrofacial vitiligo seen in 19.8% of patients (table no.3). The most common site of onset of vitiligo was trunk (table no 4). It was noted in 43.9 % of patients followed by upper limbs which were seen in 21.9 % of patients. Patients were found to be associated with thyroid disorder (5.5%), atopic dermatititis (3.3%), alopecia areata (2.2%), immunobullous disorder (2.2%) and diabetes (1.1%). Family history was positive in 5 of the patients (5.5%) (table no 5). Leukotrichia was observed in 35 of patients (38.5%). Koebners phenomenon was seen in of 20 patients (21.9%). Mucosa was involved in of 5.5 % patients.

Table 1: District wise distribution of vitiligo

Districts	Number of Cases	Percentage
Bishnupur	10	10.9
Chandel	0	0
Churachandpur	1	1.1
Imphal-East	20	21.9
Imphal-West	29	31.9
Senapati	0	0
Tamenglong	0	0
Thoubal	16	17.6
Ukhrul	0	0
Kangpokpi	1	1.1
Tengnoupal	1	1.1
Pherzawl	0	0
Noney	0	0
Kamjong	0	0
Jiribam	3	3.3
Kakching	10	10.9

Table 2: Age of onset of vitiligo

Age group	Male	Female
0-25	18	20
26-50	14	17
51-75	12	6
>75	1	3

Table 3: Type of vitiligo

Classification	Clinical forms	Number of cases	Percentage
Non segmental vitiligo	Acrofacial vitiligo	18	19.8
	Vitiligo Vulgaris	45	49.5
	Mucosal	5	5.5
	Vitiligo Universalis	1	1.1
Segmental vitiligo		6	6.6
Unclassified	Focal	16	17.6
Total		91	

Table 4: Site of onset

Site of Onset	Number of cases	Percentage
Lower limbs	9	9.9
Head and Neck	17	18.7
Upper Limbs	20	21.9
Trunk	40	43.9
Mucosa & Genitalia	5	5.5

Table 5: Pattern of vitiligo and its associated diseases

Associated disorders	Number of cases	Percentage
Thyroid disorder	5	5.5
Diabetes	1	1.1
Atopic Dermatitis	3	3.3
Alopecia Areata	2	2.2
Immunobullous disorder	2	2.2

Discussion

The population prevalence of vitiligo is estimated to be 0.14-2% in different countries based primarily on clinical records of hospitals and dermatology clinics which is similar to the present study where the prevalence rate of vitiligo is found to be 0.26%.In an extensive survey in India in and around the city of Surat[7], prevalence of vitiligo was 0.47% in the rural population and 1.78% in the urban population [7]. Men and women were affected equally. Another study from Calcutta, India showed prevalence of 0.5% with equal sex distribution[8]. However, another study done by Agrawal et al[9] found the prevalence of vitiligo to be 2.64%. The variation in the prevalence of vitiligo in India is probably due to the varying ethnic backgrounds of the population in different geographic regions.

In our study, the more common age group for onset of disease is the first 25 years of life and this is consistent with other reports [10,11]. This shows that disease starts at a younger age in the Indian population. Contrary to this, Howtiz et al[12] showed age of onset of vitiligo to be in between 40-60 years.

Males and females were affected almost equally in our study, which is similar to various other studies [13,14]. However, female predominance in some studies [15,16,17] may be presumably explained by more awareness of the women to cosmetic disfigurement and therefore more likely to seek treatment.

Vitligo vulgaris (49.5%) is the most prevalent subtype followed by acrofacial (19.8%), focal (17.6%) and segmental (6.6%) in our study. Similarly, Kovacs,1998[18]; & Hann et al,1997[19] also reported vulgaris to be most common subtype. Contradictorily, Agrawal S et al[9] found acrofacial vitiligo to be the most common type affecting 44.9 % of the patients followed by vitiligo vulgaris, focal, segmental, mucosal, mixed and universal vitiligo.

Only 5.5 % patients had a positive family history of vitiligo in the present study where as Fatani etal [20] had a higher percentage of family history in their study.

Leukotrichia has been reported in 9-48.4% of the patients with vitiligo [14,17,21]. Significance is attached to this finding as these cases also showed resistance to therapy. It may also be considered as poor prognostic factor. Leukotrichia was seen in 35 (38.5%) of our vitiligo patients.

Koebner phenomenon has been reported to occur in up to 33.0% of vitiligo patients [19]. It was seen in 21.9 % of our vitiligo patients similar to other studies. However, it was less prevalent in the studies done by Handa *et al* [14](5%).

The most common site for the onset was trunk which was seen in 43.9 % of patients followed by upper limbs seen in 21.9% of patients. It is

contradictory to the study done by Agrawal et al [9] and Akrem et al[22] which shows lower limbs as the most common site of onset. Zhang et al reports face as the most common site of onset of vitiligo[23]. Karelson *et al* [17] has reported upper limbs as most common site of onset. The exact significance of this observation is difficult to appreciate.

Vitiligo has been reported in association with several endocrinopathies and other disorders of autoimmune nature. In our study, patients were found to be associated with thyroid disorder (5.5%), atopic dermatitis (3.3%), alopecia areata (2.2%), immunobullous disorder (2.2%) and diabetes (1.1%). Agrawal et al [9] observed an association of vitiligo with cutaneous diseases such as atopic dermatitis (4.9%), alopecia areata (2.6%), and psoriasis (1.9%) and with systemic disorders such as diabetes mellitus (5.9%) and 3 cases of Down syndrome also. Handa and Kaur [14] observed atopic dermatitis in 1.4% of their patients, alopecia areata in 0.4%, bronchial asthma in 0.7%, diabetes mellitus in 0.6%, and thyroid diseases in 0.5%. Kovacs[18] stated that patients with vitiligo have an increased risk of developing autoimmune diseases.

Our study is based mainly on the data entered in our vitiligo clinic. Some patients did not come for follow up with the investigations which could be the limitation of our study.

In conclusion, this clinico epidemiological study of vitiligo in north eastern part of India shows that vitiligo vulgaris is the most common type of vitiligo with trunk as the most common site of onset. Vitiligo is also found to be associated with other disorders like thyroid, atopic dermatitis, alopecia areata, bullous pemphigoid and diabetes.

References

1. Rebat M, Halder H, Young CM. New and emerging Therapies for Vitiligo. Clin Dermatol 2000; 18: 79-85.
2. Lerner AB. Vitiligo. J Invest Dermatol 1959; 32: 285-310.
3. Lerner AB. On the etiology of vitiligo and grey hair. Am J Med 1971; 51: 141-147.
4. Lerner AB. Vitiligo. Progr. Dermatol 1972; 6: 1-9.
5. Ortonne J. Psoralen therapy in vitiligo. Clin Dermatol 1989; **7**: 120-135.
6. Ezzedine K, Lim HW, Suzuki T, Katayama I, Hamzavi I, Lan CC, *et al*. Revised classification/nomenclature of vitiligo and related issues: The vitiligo global issues consensus conference. Pigment Cell Melanoma Res 2012; 25:E1‐13.
7. Mehta NR, Shaha KC, Theodore C, Vyas V, Patel A. Epidemiological study of vitiligo in Surat area, South Gujarat. Indian J Med Res 1973; 61:145‐54.
8. Das SK, Mazumdar PP, Chakraborty R, Majumdar TK, Haldar B. Epidemiological profile in Calcutta. India Genet Epid 1985; 2:71‐8.
9. Agarwal S, Ojha A, Gupta S. Profile of vitiligo in Kumaun region of Uttarakhand, India. Indian J Dermatol 2014; 59:209.
10. Rajpal S, Atal R, Palaian S, Prabhu S. Clinical profile and management pattern of vitiligo patients in a teaching hospital in Western Nepal. Journal of Clinical and Diagnostic Research 2008; 2: 1065 – 68.
11. Arycan O, Koç K, Ersoy L. Clinical characteristics in 113 Turkish vitiligo patients. Acta Dermatoven 2008; 17: 129 – 32.
12. Howits J, Brodthagen H, Schwartz M, Thomsen K. Prevalence of vitiligo: Epidemiological survey the Isle of Bornholm, Denmark. Arch Dermatol. 1977; 113: 47-52.
13. Majumder PP. Genetics and prevalence of vitiligo vulgaris. In:Hann SK, Nordlund JJ, editors. Vitiligo. Oxford: Blackwell Science Ltd.; 2000. p. 18‐20.
14. Handa S, Kaur I. Vitiligo: Clinical findings in 1436 patients. J Dermatol 1999; 26:653‐7.[Pubmed:10554431]

15. Sehgal VN. A clinical evaluation of 202 cases of vitiligo. Cutis; 14:439‑45.
16. Akay BN, Bozkir M, Anadolu T, Gullu S. Epidemiology of vitiligo, associated autoimmune diseases and audiological abnormalities: Ankara study of 80 patients in Turkey. J Eur Acad Dermatol Venereol 2010;24:1144‑50.[Pubmed:18613871]
17. Karelson M, Kimgo K, Salum T, Kõks S, Silm H. An Adult's Vitiligo in Estonia: Study of 155 patients. Open Dermatol J 2009; 3:68‑72.
18. Kovacs OS. Vitiligo. J Am Acad Dermatol 1998; 38:647‑66.
19. Hann SK, Chun WH, Park PK. Clinical characteristics of progressive vitiligo. Int J Dermatol 1997; 36:353‑55.
20. M. Fatani, S. AlSharif, K. Alfif, A. Khan, W. Hussain, A. Banjar. The clinical patterns of vitiligo "hospital-based study" in Makkah region, Saudi Arabia J. Saudi Soc. Dermatol. Dermatol. Surg., 18 (1–2) (2014), pp. 17-21.
21. Cho S, Kang HC, Hahm J. Characteristics of vitiligo in Korean children. Pediatr Dermatol 2000; 17:189‑93.
22. Akrem J, Baroudi A, Aichi T, Houch F, Hamdaoui MH. Profile of vitiligo in the south of Tunisia. Int J Dermatol 2008; 47:670‑4.
23. Zhang XJ, Liu JB, Gui JP, Li M, Xiong QG, Wu HB, *et al*. Characteristics of genetic epidemiology and genetic models for vitiligo. J Am Acad Dermatol 2004; 51:383‑90.