



Short Communication

Prevalence of Diabetes Mellitus and Thyroid Disorders in Patients with Vitiligo - A Clinical Study

Raji P. Philipose, Krishnan S., Srikanth S.

Dept. of Dermatology; Mahatma Gandhi Medical College & Research Institute, Pondicherry- 607402.

Corresponding Author: Raji P. Philipose

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ABSTRACT

Vitiligo is a common pigmentary disorder of the skin seen all over the world with an incidence ranging from 0.1 % - 2% across the globe. Studies across the world have shown a variable frequency of diabetes mellitus and thyroid disorders associated with vitiligo. We attempt to study the epidemiological profile of vitiligo and to elucidate the association of diabetes mellitus and thyroid disorders with this disease.

The prevalence of vitiligo was found to be 1.4% in our study. A female preponderance was seen. Vitiligo vulgaris was the most common phenotype seen (64%). 15.33% of the vitiligo patients had associated diabetes mellitus and 12.67% had thyroid disorders. The study shows a definite association of diabetes mellitus and thyroid disorders with vitiligo, thus suggesting the importance of evaluating these 2 diseases in all cases of vitiligo for their early diagnosis and treatment.

Keywords: Vitiligo, Diabetes Mellitus, Thyroid Disorders

INTRODUCTION

Vitiligo is a common pigmentary disorder of the skin seen all over the world with an incidence ranging from 0.1 % - 2% across the globe. [1,2] Studies across the world have shown a variable frequency of diabetes mellitus and thyroid disorders associated with vitiligo. There are not many studies in South India on the clinical associations of vitiligo. We attempt to study the epidemiological profile of vitiligo and to elucidate the association of diabetes mellitus and thyroid disorders with this disease.

METHODS

All patients with vitiligo attending the Dermatology OPD from December 2011

to June 2013 were taken up for the study. A detailed history was taken, general and dermatological examination was carried out. All vitiligo patients except known diabetics were sent for blood glucose analysis (FBS, PPBS). Thyroid function tests and anti-thyroid antibodies estimation was done for all vitiligo patients.

RESULTS

The total number of patients attending our OPD during the study period was 10,711. Out of them, 150 patients had vitiligo. Hence the prevalence of vitiligo in this study was 1.4%. Most of the patients (22.67%) belonged to the 21 - 30 years age group. A female preponderance was seen

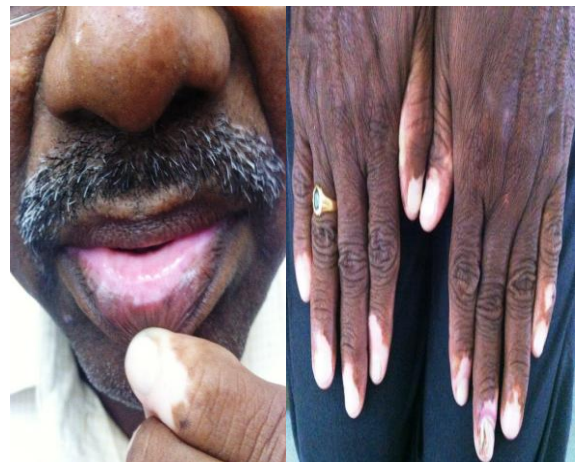
(M: F – 1: 1.2). 21.33% of the patients gave a positive family history of vitiligo. Vitiligo vulgaris (Figures 1, 2) was the most common phenotype seen (64%), followed by focal vitiligo (10%) (Figure 3) and lip-tip vitiligo (10%) (Figures 4, 5).

- Number of vitiligo patients with diabetes mellitus -23.
- Prevalence of diabetes mellitus in vitiligo patients - 15.33%.
- Number of vitiligo patients with thyroid disorders - 19.
- Prevalence of thyroid disorder in vitiligo patients - 12.67 %.
- All the 19 patients with thyroid disorder had hypothyroidism.
- 9 patients tested positive for thyroid antibodies.
- Prevalence of autoimmune thyroid disease in vitiligo patients - 6%.

15.33% of the vitiligo patients had associated diabetes mellitus and 12.67% had thyroid disorders. Among the vitiligo patients with thyroid disorders, almost half (47.37%) had autoimmune disease.



Figure 3: FOCAL VITILIGO



Figures 4,5 : LIP-TIP VITILIGO



Figures 1, 2 : VITILIGO VULGARIS

DISCUSSION

The prevalence of vitiligo in our study was 1.4%, which was similar to the studies done by Reghu et al, [3] Niang et al, [4] and El Essawi et al. [5] Literature states the prevalence of vitiligo to be 0.1% to 2% across the globe. [1,2] Same is the case in the present study.

Most of the patients in this study belonged to the 21 - 30 years age group(22.67%), followed by the 11 - 20 years age group (16%). Our finding was similar to the study done by Shankar et al where most of the patients (28.75%) belonged to the 21 - 30 years age group. [6] Thus it is seen that the prevalence of vitiligo is maximum in the 2nd and 3rd decades of life. The increased frequency in the 21 - 30 years

age group can be related to matrimonial anxiety of the patients and their parents.

The male: female ratio in the present study was 1: 1.2 which was similar to the study done by Martis et al. [7] Vitiligo is known to affect both sexes equally. However many studies have shown a female preponderance. Same is the case with the present study. The female preponderance in this study can be attributed to the increased social stigma and embarrassment faced by the female patients in this region. Moreover marital anxiety and increased cosmetic concern in women drives them to seek medical attention. It was noted that parents were more concerned when confronted with a daughter suffering from vitiligo than a son with the same disease; hence the female preponderance was seen in the study.

21.33 % of the patients in the study gave a positive family history of vitiligo. The finding was similar to the studies of Niang et al, [4] and Singh et al. [8] This finding establishes that vitiligo is a genetically determined disease.

As seen in most of the studies, vitiligo vulgaris was the most common form of the disease in the present study (64%) and segmental vitiligo was the least common (2%). Our findings were similar to those of Naik et al, [9] and Poojary et al. [10]

23 patients in the present study were diagnosed to have diabetes mellitus. Hence the prevalence of diabetes in vitiligo patients was found to be 15.33%. This was similar to the findings of Gopal et al. [11] 19 of the vitiligo patients in this study were diagnosed to have thyroid disorder. Thus the prevalence of thyroid disorder in vitiligo patients in the present study was 12.67%. The finding was similar to that of Gopal et al, [11] and Singh et al. [12]

9 patients in the vitiligo population studied, tested positive for thyroid antibodies and all 9 of them belonged to the hypothyroid group. Almost half (47.37%) of

the vitiligo patients diagnosed with thyroid disorder had autoimmune thyroid disease. This finding strengthens the auto-immune hypothesis of vitiligo.

This study shows a definite association of diabetes mellitus and thyroid disorder with vitiligo. The patients who were diagnosed with these 2 diseases were started on treatment immediately. Thus we see that it is important to evaluate the association of diabetes mellitus and thyroid disorder with vitiligo to help in an early detection and treatment of the same.

CONCLUSION

The study shows a definite association of diabetes mellitus and thyroid disorders with vitiligo, thus suggesting the importance of evaluating these 2 diseases in all cases of vitiligo for their early diagnosis and treatment. The disease has a profound effect on the quality of life of the patient. Therefore the help of psychiatrists and clinical psychologists should be sought to help the patients overcome the stigma and depression associated with the disease and to improve their quality of life. The society should be educated about the non-contagious nature of the disease and the difference between vitiligo and leprosy. This would lead to a better psycho-social well being of the patients.

REFERENCES

1. Yaghoobi R, Omidian M, Bagherani N. Vitiligo: a review of the published work. J Dermatol. 2011 May; 38(5):419-31.
2. Rebat M. Halder, Sumayah J. Taliaferro; Vitiligo. In: Klaus; Goldsmith, Lowell A.; Katz, Stephen I.; Gilchrist, Barbara A.; Paller, Amy S.; Leffell, David, : Fitzpatrick's Dermatology in General Medicine. 7th ed, McGraw-Hill 2008; 616-21.
3. Reghu R. & James E. Epidemiological profile and treatment pattern of vitiligo

- in a tertiary care teaching hospital. *Int J Pharm Sci.* 2011; 3: 137-141.
4. Niang SO, Ndiaye M, Ly F, Diallo M, Bouksani S, Diop A, Diatta BA, Dieng MT, Kane A. The Vitiligo in Senegal. *ISRN Dermatol.* 2012; 2012:932163. Epub 2012 Jan 11.
 5. El-Essawi D, Musial JL, Hammad A, Lim HW. A survey of skin disease and skin-related issues in Arab Americans. *J Am Acad Dermatol* 2007; 56: 933–938.
 6. Shankar D S K, Shashikala K, Madala R. Clinical patterns of vitiligo and its associated co morbidities: A prospective controlled cross-sectional study in South India. *Indian Dermatol Online J.* 2012 May-Aug; 3(2): 114–118.
 7. Martis J, Bhat R, Nandakishore B, Shetty JN. A clinical study of vitiligo. *Indian J Dermatol Venereol Leprol.* 2002; 68: 92-93.
 8. Singh S, Usha, Pandey S S. Epidemiological profile of vitiligo in Northern India. *Journal of Applied Pharmaceutical Science* 01 (10); 2011: 211-214.
 9. Naik A U. Vitiligo: Compilation of clinic-epidemiological features inpatients attending tertiary care government hospital, Thane. *Australasian Medical Journal* 2010; 3 (12): 826 – 32 .
 10. Poojary SA. Vitiligo and associated autoimmune disorders: A retrospective hospital-based study in Mumbai, India. *Allergol Immunopathol (Madr).* 2011 Nov-Dec; 39(6):356-61.
 11. Gopal KVT, Rao GRR, Kumar HK, Rao MVA, Vasudev P. Vitiligo: A part of systemic autoimmune process. *Indian J Dermatol Venereol Leprol.* 2007; 73:162-165.
 12. Singh S, Usha, Pandey S S. Thyroid Dysfunction and Anti-Thyroid Peroxidase Antibody In Patients With Vitiligo. *International Journal of Pharmaceutical & Biological Archives* 2011; 2(3):891-895.

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