



## CHILDHOOD VITILIGO: A HOSPITAL BASED RETROSPECTIVE STUDY ON CLINICO-EPIDEMIOLOGICAL PROFILE

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**ABSTRACT** **Background:** vitiligo is a common disorder of melanocyte encountered which has a huge psychological impact on patient's life. Childhood vitiligo has some different features than adult onset vitiligo. **Aim of the study:** To study the clinical and epidemiological profile of childhood vitiligo patients. **Materials and methods:** We retrospectively analyzed the clinical data of children with vitiligo presented to the dermatology outpatient clinic at MGM Hospital, Navi Mumbai from January 2016 to December 2019. The study included 41 patients who were less than 18 years. Demographic details of all patients including the age of onset, initial site of onset, duration and progression of disease, associated diseases and family history were obtained from the vitiligo clinic proforma. **Results:** Out of 41 patients 21(51.8%) were girls and 20(48.8%) were boys. The mean age of onset was 9.80 ranging from 1 year to 17 years. The duration of the disease was ranging from 20 days to 9 years. The most common type of vitiligo observed in our study was focal vitiligo (39%) followed by vitiligo vulgaris (31.75%) then segmental vitiligo (14.6%) mucosal vitiligo (12.2%) and then acrofacial vitiligo (2.4). Most common association observed was atopic dermatitis. **Conclusion:** Female preponderance was seen in our study. Focal vitiligo was the most common type of vitiligo observed in our study.

**KEYWORDS :** Childhood vitiligo, leucotrichia, focal vitiligo

### INTRODUCTION

Vitiligo is an acquired pigmentary disorder of skin, mucous membranes, or both, characterized by loss of epidermal melanocytes.<sup>1</sup> The disorder affects nearly 1%–2% of the world population irrespective of race and ethnicity with highest incidence recorded in Indian subcontinent followed by Mexico and Japan.<sup>2</sup>

The exact pathogenesis of vitiligo remains undetermined. Various theories have been suggested for the cause of melanocyte loss in vitiligo; some have proposed that vitiligo is a multifactorial disease, with both genetic, oxidative stress and environmental factors implicated in its initiation. However, the autoimmune or autoinflammatory theory is the leading causation hypothesis.<sup>3</sup>

The disease has a familial incidence of 1.56-34%. Genetic studies suggest a polygenic inheritance pattern. Vitiligo has been reported in association with several endocrinopathies and other disorders of autoimmune nature.<sup>4</sup>

It can develop anytime in life, including neonatal period and childhood. Childhood Vitiligo deserves special attention because in 50% patient, the onset of disease is before 20 years of age and in 25% of cases, it starts before the age of 10 year.<sup>5</sup> It differs from the adult disease in the following aspects: a female preponderance is observed, segmental presentation is more common, and associated other autoimmune or endocrine disorders are rarer.<sup>6</sup>

It is a psychologically devastating, cosmetically disfiguring disease and is resistant to therapy. Hence, it causes emotional trauma in children that can have long-lasting effects on their self-esteem.<sup>7</sup>

Therefore, we undertook this study to see the clinico-epidemiological profile of childhood vitiligo.

### MATERIALS AND METHODS

The study is retrospective cross sectional questionnaire based study conducted in outpatient department of dermatology, of a Tertiary care centre situated in city of Navi Mumbai, present in the periphery of Mumbai, the capital of Maharashtra State in India. Participants included satisfied the inclusion criteria and enrolled voluntarily into the study. Ethics committee approval was taken for the study and written informed consent was taken from all the patients. A 4 years data (January 2016 to December 2019) of patients with vitiligo below 18 years of age were included in the study.

A detailed history was obtained from the clinic notes including age,

sex, age of onset, initial site of onset, duration of disease, associated mucosal involvement, associated diseases, and family history.

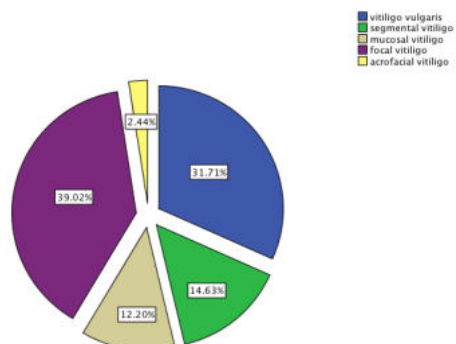
### STATISTICAL ANALYSIS:

The data collected was entered into Microsoft Excel sheet. The Data is presented using frequency, percentage and descriptive statistic such as mean, SD and SEM. Further statistical analysis was carried out using statistical chi square test performed to verify the associations between two variables.

### RESULTS:

Out of 41 patients 21(51.8%) were girls and 20(48.8%) were boys. The mean age of onset was 9.80 ranging from 1 year to 17 years. The duration of the disease was ranging from 20 days to 9 years with maximum number of patients (17, 41.5%) having duration between 1-5 years. Vitiligo affecting first and second degree relatives was seen in 5 patients (12.2%).

The most common type of vitiligo observed in our study was focal vitiligo (39%) followed by vitiligo vulgaris (31.75%) then segmental vitiligo (14.6%) mucosal vitiligo (12.2%) and then acrofacial vitiligo (2.4). The most common site of onset of vitiligo was face (29.3%) followed by lower limbs (19.5%) and lips (4.9%). Four out of forty one patients (9.8%) had association with atopic dermatitis and other associations seen in our study were megaloblastic anemia (4.8%), juvenile diabetes (2.4%) and developmental delay (2.4%). Physical trauma as the most common precipitating factor was seen in 4 (9.8%) patients. Leucotrichia was seen in three (7.3%) patients out of forty one.



**Graph 1: Distribution of cases according to type of vitiligo**



**Photograph 1: A 6 years old girl having multiple, well defined, depigmented patches present over bilateral upper eyelids, left lower eyelid and neck**

## DISCUSSION

Vitiligo is characterized by milky-white colored or depigmented macules of variable shapes and sizes with or without leucotrichia and lacks any epidermal changes. It is the most common depigmentary disorder having social and psychological aspects.<sup>4</sup> The precise etiology of vitiligo is still unknown and it is considered to be multifactorial. Numerous theories help to explain the etiopathogenesis of various clinical types of vitiligo.<sup>6</sup>

In our study, girls (51.8%) slightly outnumbered boys. Most of studies show female preponderance except in few in which the sex ratio is almost equal.<sup>15,7</sup> Studies from the Indian sub-continent have also shown higher female incidence in northern India at 57.1% and in southern India at 61.1%.<sup>7</sup> The explanation for this could be vitiligo being social stigma in the society, parents are more concerned about the depigmented patch on a girl child as compared to boys.

The mean age of onset observed in our study was 9.8 years (ranging from 1 year to 17 years). Mean age of onset in various Indian studies are 7.85 years<sup>1</sup>, 6.64 years<sup>5</sup>, 8.92 years<sup>7</sup> and 5 years.<sup>8</sup> Similar results are observed in various studies from Korea, China and Kuwait between 8 to 12 years.<sup>9,10,11</sup> Maximum (41.5%) number of patients in our study have duration between 1 to 5 years.

Out of 41 patients in our study, 5 (12.2%) patients had positive family history affecting their first and second degree relatives. It was similar to studies conducted by Hafi et al (12%)<sup>6</sup>, Handa and Gogra (12%)<sup>12</sup> and Jain et al (17.5%)<sup>5</sup>.

In our study, it was observed that most common clinical type of vitiligo was focal vitiligo (39 %) followed by vitiligo vulgaris (31.75%) then segmental vitiligo (14.6%) mucosal vitiligo (12.2%) and then acrofacial vitiligo (2.4). According to various studies reported, vitiligo vulgaris was the most common presentation followed by focal and then segmental vitiligo.<sup>4,7,10</sup>

Maximum number of patients in our study reported face (29.3%) as the most common site of onset followed by lower limbs (19.5%) and then lips (4.9%). This was in concordance with the study done by Jain et al, Hafi et al and Puri et al (30%).<sup>5,6,13</sup> According to Gupta et al, face (26%) was the second most common site of onset after lower limbs (44%).<sup>14</sup>

Among various associations of vitiligo, atopic dermatitis (9.8%) was seen in four patients and other associations seen in our study were megaloblastic anemia (4.8%), juvenile diabetes (2.4%) and developmental delay (2.4%). Atopic dermatitis (13%) was also commonly seen in a study conducted by Sheth et al similar to our finding.<sup>7</sup> Among other cutaneous associations, leukotrichia was seen in 3 (7.3%) patients out of forty one. Leukotrichia is a common presentation in vitiligo with various studies reporting an incidence rate varying from 3.7% to 32.5%.<sup>14</sup>

## CONCLUSION

We observe that in our study, girls were slightly more affected as compared to boys. The mean age of onset was 9.8 years. Most common clinical types seen was focal type followed by vitiligo vulgaris, segmental, mucosal and then acrofacial. Thus, if there is any depigmented patch seen on a child it should be examined carefully with regular follow up. Therefore, study conducted on childhood vitiligo would help the concerned doctor of that areas to be well aware of the clinico-epidemiological behaviour, associated diseases and predisposing factors.

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