Idiopathic Guttate Hypomelanosis affecting the quality of life - A Cross sectional study

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ABSTRACT

OBJECTIVE: To evaluate the Dermatology Life and Quality Index in Indian patients with idiopathic guttate hypomelanosis (IGH).

DESIGN: Cross sectional, open labelled, randomised controlled trial.

SETTING AND PARTICIPANTS: The study was done at Chettinad Hospital and Research Institute, Kelambakkam, Tamil Nadu, India from April 2017 to March 2018 in 150 patients with idiopathic guttate hypomelanosis diagnosed clinically.

MAIN OUTCOME MEASURES: The quality of life of patients with IGH was assessed based on a universally accepted questionnaire- Dermatology Life and Quality Index that comprises of 10 questions based on how the disease has affected the patient’s day to day activities in the past week. The DLQI was evaluated at the baseline and at the end of 3 months with proper counselling and treatment.

RESULTS: In this study, the most common age group that was affected was 61-70 years. The study showed a female preponderance with 56% of the patients being female and 44% being male. The most common site that was affected was the lower limbs (80%) followed by the upper limbs (74%). The most common misconception about IGH was that it was perceived as initial stages of vitiligo by most of the patients that lead to anxiety. Various treatments like cryotherapy, 0.1% tacrolimus ointment application, photoprotection, eau de cologne was attempted in our patients with unsatisfactory response. Out of these, the response to cryotherapy was the best with 48% of patients showing improvement. The DLQI at the baseline was 11.61 and after proper counselling and treatment it reduced to 8.94 at the end of 3 months.

CONCLUSION: IGH does affect the quality of life of patients as it is perceived as vitiligo and leprosy by the community due to lack of proper knowledge about the disorder. Treatment for this disorder is unsatisfactory. Proper counselling does play a pivotal role in reducing the anxiety and stigma associated with this benign, hypopigmentary disorder that is demonstrated in our study.

Keywords: IGH, idiopathic guttate hypomelanosis, DLQI, benign

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INTRODUCTION: Idiopathic guttate hypomelanosis, otherwise known as disseminate lenticular leukoderma is a very common, benign, asymptomatic, non-communicable acquired hypomelanotic disorder that commonly affects the elderly population. The incidence rate of IGH increases with advancing age with a probability of 47% (31-40 years) and to around 97% (81-90 years). However, this can occur as early as 3 years of age. In a study done by Kim et al around 30% of patients had onset of IGH before 20 years of age. It has a female preponderance and is more common in sun-exposed sites and darker individuals. They usually present as multiple, symmetric, well-defined hypopigmented or porcelain white macules with irregular to round borders of size around 0.2-2 cm. There is no textural abnormality. Once occurred they are fixed and they never coalesce as seen in vitiligo or leprosy which is the most common fear among people with the misconception that it will progress to involve the whole body one day. Shin et al reported gradual increase in size of lesions in 16% of his patients. However, with advancing age the skin lesions increase in number. They are of a slightly larger size in elders than in younger patients. The number of skin lesions may range from 1-100 per person depending on the etiological factors like genetic factors, advancing age, chronic sun exposure, local trauma and autoimmune factors. Commonly seen over the photo-exposed sites. However, the other sites can be affected as well. The common sites affected are the extensors of forearms and shins.

Skin is the largest and the only organ of the body that is visible to the outside environment. Flawless skin is regarded a sign of beauty and good health. It also acts as a window to the diagnosis of the external and the internal insults that occurs to our body. Alteration in pigmentation is mostly perceived as a defect or stigma by the community especially if its white as it resembles vitiligo and leprosy and this adds on the psychological stress to the patient. Disorders of pigmentation are of a major concern in India as they have a huge psychosocial impact on the life of patients.

Skin disorder can adversely affect the patient both psychologically and socially. Especially if its present on the exposed sites. It can even interfere with their work, sleep cycles and concentration. The burden of the skin disease on the patient’s life can be measured by a simple questionnaire called the Dermatology Life and Quality Index (DLQI). This consists of a set of 10 simple questions related to their dermatological disorder and how it has affected their day to day activities in the past week with 5 options each. The answers are graded from 0-3 based on the patient’s choices. A score of 3 for very much, 2 for a lot, 1 for a little, 0 for not at all or not relevant and the first part of question seven has 2 choices, if it’s a yes – the score is 3 and if it’s a no patient has to answer the second part of the question which again has 5 options as the earlier questions. The mean time to answer a question is 2 minutes. The maximum score of DLQI is 30 and the minimum score is 0. Nowadays the interest has been expanding for studying the DLQI of various dermatological disorders to find out the psychosocial impact of the disorders on the patient’s life. But there are no studies reviewing the DLQI of idiopathic guttate hypomelanosis. Hence this study is being done.

MATERIALS AND METHODS: This was a cross sectional, open labelled, randomized controlled trial done at Chettinad Hospital and Research Institute at Dermatology Department from April 2017 to March 2018. Following the approval from the institutional ethical committee the study was started. A total of 150 patients with a clinical diagnosis of idiopathic guttate hypomelanosis irrespective of the age and gender were included in this study. After obtaining proper written and well informed consent, information and history on patient’s demographic data like age, sex, occupation, duration of the disease, fears associated with IGH and thorough examination of lesions were done. Proper counselling regarding the IGH and its benign and unharming nature was explained to the patients and the patients were subjected to various treatment modalities of IGH like cryotherapy (5 sec per lesion every two weeks once), topical 0.1% tacrolimus - once daily application, eau de cologne once daily application and photo protection. The DLQI was recorded at the baseline and at the end of 3 months following treatment and proper counselling.

RESULTS: A total of 150 patients were included in this study. The lowest age with IGH seen in our study was 32 years and the highest age group was 70 years of age. The age distribution seen in our patients is given in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Age group</th>
<th>Number of patients</th>
<th>Percentage of patients</th>
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</thead>
<tbody>
<tr>
<td>31-40 years</td>
<td>8 patients</td>
<td>5.3%</td>
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Our study showed a female preponderance with 56%(84 patients) of the patients being female and 44 %(66 patients) of the patients being male.

Fear associated with IGH

Most of the patients had a misconception that IGH is vitiligo(36%) followed by leprosy which was around 24% of the patients, 23% of the patients thought it could be STD , 22 % thought it was a form of communicable disease , 18% of the patients thought it was drug induced and , 13% percent of the patients didn’t presume the cause and 10% of the patients thought it was food associated and 10% thought it was due to their occupation and 6% thought it was water related disorder.

Most of the skin lesion were seen over the lower limbs (80%) followed by the upper limbs (74%) followed by the gluteal region (2.3%) followed by the abdomen (1.30%) followed by the back(0.60%). None of the lesions were seen over the face.
Various modalities of treatment were tried in our study like cryotherapy, 0.1% tacrolimus ointment, photoprotection and eau de cologne. None of the treatments were satisfactory. However the best response was seen with cryotherapy.

Dermatology life and quality index of the patients at baseline was 11.61 and at the end of 3 months with proper counselling and treatment, it reduced to 8.94. This result shows a positive effect of treatment and counselling on the quality of life of patients.
Discussion: Around 24% of patients of 30-40 years of age had IGH and around 80% of patients of age group 60-70 % had IGH. the lowest age that was affected was 32 years old female and the highest age that was affected was 70 years. Its been recorded in the previous studies that the prevalence of IGH increases with age and so was seen in our study too.\cite{8,9} IGH shows a female preponderance when compared to male as females have more concern about the cosmetic appearance than males. This was seen in our study too with 56% of the patients being female and 44% being male. Most of the skin lesions were distributed over the extremities and none the lesions were seen over the face. Face and neck are mostly spared in IGH. Rarely can be seen over the face that too near the mandibular region\cite{7}

Various modalities of treatments are available for IGH like cryotherapy\cite{10,11}, chemical peeling\cite{12}, laser\cite{13,14}, dermabrasion\cite{15}, photoprotection, caudecologne, 5-Floururacil and skin grafting but none the treatments are satisfactory. Since it’s a benign disorder, treatment is unwarranted. Moreover the number of skin lesions increases with age and time and occurrence cant be prevented and treating multiple lesions is a bit tedious for the patient if it’s a topical preparation and for the dermatologist too if it’s a procedural management. Moreover, the response to the treatment is unpredictable and we cannot prevent it from occurring as it’s a sign of aging occurring due to melanopenia. Around 10-20% the melanocytes decrease with every 10 years of age. May be this is the reason why IGH increases with advancing age.

DLQI was significantly affected in our study with 11.61 at the baseline that reduced to 8.61 at the end of 3 months. Most of the patients feared it was vitiligo or leprosy. It was pitiful to know that most the family members of the patients didn’t allow them to touch them or their grandchildren due to fear of spread of the disease. Patients were anxious and threatened fearing that IGH was vitiligo and it will spread to their whole body. The sense of satisfaction on the patients face after the explanation of the benign nature of the disease and almost 97% of the patients of 90-100 years will have IGH was rewarding.

DLQI of vitiligo patients in previous studies:

<table>
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<tr>
<th>Author</th>
<th>DLQI</th>
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<tbody>
<tr>
<td>Prasad et al\cite{16}</td>
<td>10.67</td>
</tr>
<tr>
<td>Mustafa et al\cite{4}</td>
<td>5.80</td>
</tr>
<tr>
<td>Wang et al\cite{17}</td>
<td>4.4</td>
</tr>
<tr>
<td>Ongenae et al\cite{18}</td>
<td>4.9</td>
</tr>
<tr>
<td>Tanioka et al\cite{19}</td>
<td>5.9</td>
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Conclusion: In India, stigma associated with depigmentary disorders does affect the quality of life of patients. IGH, a common acquired hypopigmentary disorder is associated with considerable stigma especially in females. Counselling plays a pivotal role in disorders affecting the quality of life. Proper counselling about the nature of the disease along with the treatment improves the quality of life in such patients. It helps the patient understand the disease. Thus helps in reducing the anxiety and stigma associated with the disease.

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