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Study of the Efficacy of Hydroxychloroquine in the Treatment of Actinic Cheilitis

Dr. Rahul Kumar Sharma[1], Dr. Rajendra Kumar Sharma[2]

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Abstract:

Actinic cheilitis is a rare chronic and relapsing condition affecting predominantly the lower lip, which develops due to excess ultraviolet radiation exposure. It is a difficult and challenging condition to treat .So we decided to study the role of hydroxychloroquine in actinic cheilitis as this drug has shown positive results in similar conditions. All the patients who attended the dermatology clinic from March 2015 to March 2016 with the clinical diagnosis of actinic cheilitis and who fulfilled the inclusion and exclusion criteria were recruited for the study. The baseline workup including complete blood count, liver function test, renal function test and pre-hydroxychloroquine eye checkup was performed before initiating the drug. After that they were initiated on hydroxychloroquine and a lip emollient with weekly follow up. Our study showed that out of eighteen cases, nine patients showed complete resolution, five patients had partial improvement and four patients did not respond to hydroxychloroquine after three months of therapy. It is efficacious in actinic cheilitis due to its anti-inflammatory and systemic sunscreen like activity. Its actual role has to be further confirmed by large level case control study.

Keywords: *- Actinic cheilitis, Hydroxychloroquine , Hydroxychloroquine in actinic cheilitis, Treatment of actinic cheilitis.*

Introduction

Actinic cheilitis is a rare recalcitrant premalignant disease.[1] It involves the vermilion border of the lower lip.[2] Actinic cheilitis is similar to actinic keratosis.[3] This disease is caused by chronic sun exposure and it has a potential to become squamous cell carcinoma.[1,2] The lower lip is the most vulnerable to this condition as sun is at right angle to it in ultraviolet light peak hours.[1,2,3] Tobacco chewing and exposure to other carcinogens may predispose to this condition.[2,3,4]

The patient may presents with tightness in lip, mottling, atrophic areas, lip ulceration, roughness (sandpaper like), scaling and thick flakes on the lower lip.[1,2] Occasionally fissuring and wrinkling can be seen in the lip. This condition is resistant to treatment and chronic in nature.[1,2,3,4]

Very limited treatment modalities are mentioned in the literature. There are numerous mechanisms of action of hydroxychloroquine , which are found to be useful in the treatment of dermatological disorders like porphyria, systemic lupus erythematosus,, dermatomyositis, sjogren's syndrome and sarcoidosis.[5,6,7] The lysosomal enzyme stabilization effects and its effects on oxygen free radicals are responsible for its various anti-inflammatory and systemic sunscreen like properties in cutaneous and mucosal disorders.[5,6,7] It decreases the production of the IFN-γ, tumor necrosis factor-alpha (TNF-α), interleukin-6 (IL-6) and causes activation of the transcription factor NF-κB.[5,8] Actinic cheilitis is a difficult and challenging condition to treat. So we decided to study the role of hydroxychloroquine in actinic cheilitis as this drug has shown favorable results in similar photoaggravated conditions. We studied the efficacy of hydroxychloroquine in the treatment of actinic cheilitis as it is having systemic sunscreen and anti-inflammatory property.

Aim -

To study the efficacy of hydroxychloroquine in actinic cheilitis

Study subjects - All the patients who attended the dermatology clinic from March 2015 to March 2016 with the clinical diagnosis of actinic cheilitis and who fulfilled the inclusion and exclusion criteria.

Inclusion criteria

1) Patients with the clinical diagnosis of actinic cheilitis
2) Age above 18 years

Exclusion criteria

1) Pregnancy and lactation
2) Any known contraindication for hydroxychloroquine
3) Abnormal pre-hydroxychloroquine eye checkup (Visual fields plus spectral-domain optical coherence tomography)
4) Hepatic or renal insufficiency
5) Inability to give consent

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6) Known case of psoriasis, lichen planus and atopic dermatitis

Study period – One year (from March 2015 to March 2016).

Methodology

All the patients who attended the dermatology clinic from March 2015 to March 2016 with the clinical diagnosis of actinic cheilitis and who fulfilled the inclusion and exclusion criteria were recruited for the study. The baseline workup including complete blood count, liver function test, renal function test and pre-hydroxychloroquine eye checkup (routine ophthalmological and visual fields plus spectral-domain optical coherence tomography) was performed before initiating the drug. All the cases had normal workup. They were initiated on hydroxychloroquine (400 mg per day for 3 months) and a lip emollient with regular follow up. At the end of third month of treatment patients were evaluated for the final results. All the patients who showed complete resolution of lesions after three months of treatment with hydroxychloroquine were observed for another 3 months to find out any relapse after stopping the same. The emollient and sun protection was advised for lifelong in all the patients. Those who showed partial and no response to the treatment after 3 months were withdrawn from hydroxychloroquine and treated with other modalities of treatment.

Results

The mean age was thirty eight years and two months. Out of eighteen patients, 11(five street vendors, three farmers, two labourers, one cobbler) were males and 7 were females (four construction labourers, two engaged in farming, one vegetable vendor). Our study revealed that out of eighteen cases, nine patients showed complete resolution, five patients had partial improvement and four patients did not respond to hydroxychloroquine after 3 months of therapy.

Discussion

Actinic cheilitis is a chronic and relapsing uncommon condition affecting predominantly the lower lip, which develops due to excess ultraviolet radiation exposure.[1,2] It can be diagnosed on the basis of history of chronic sun exposure and involvement of lower lip with classical clinical features. Actinic cheilitis may affect the quality of life by causing difficulty in eating and speaking. There is very limited literature available to support the role of antimalarial drugs in actinic cheilitis.[2,5,6] The study subjects were less in number due to the rarity of disease. Our study revealed a high efficacy of hydroxychloroquine in the treatment of actinic cheilitis .It is probably helping in actinic cheilitis due to its anti-inflammatory and systemic sunscreen like activity.[5,6,7,8] Its actual role has to be further confirmed by large level case control study. Our study showed that actinic cheilitis is more common in males as compared to females. Our study also revealed that it is mainly found in the people with extreme outdoor activity and field job, which involves chronic sun exposure. It is essential to diagnose actinic cheilitis in early stage as it has a potential to become malignant if left untreated.

Recommendation

In the recalcitrant cases of actinic cheilitis, hydroxy-chloroquine should be tried.

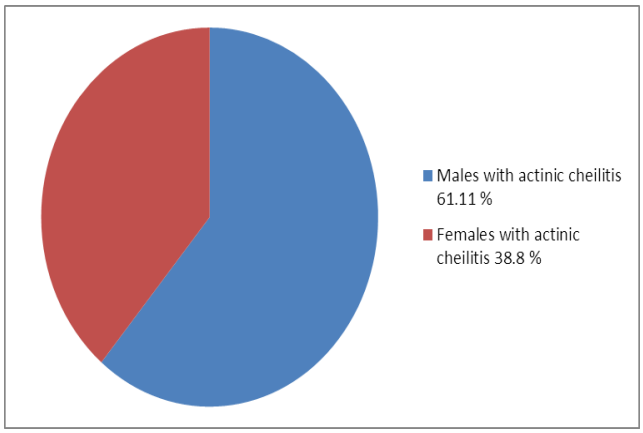

Figure 1 Sex distribution in patients with actinic cheilitis

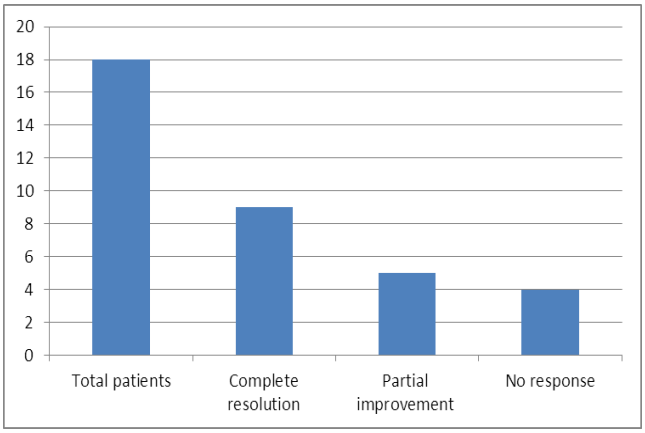

Figure 2 Diagram is showing that 9 patients (50 %) had complete resolution, 5 patients (27.7 %) had partial improvement, and 4 patients (22.2 %) did not respond

Figure 3 Actinic cheilitis in a cobbler

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Figure 4 Actinic cheilitis in a lady who is engaged in farming

Figure 5 Actinic cheilitis in a vegetable vendor

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Corresponding Author -

Dr. Rahul Kumar Sharma

161/14, Rampura house, Infront of PNB, Ramganj, Ajmer - 305001, Rajasthan, India

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