

Case Report

Tongue Acupuncture as an Alternative Method for Treating Rosacea—A Case Report

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Abstract

Rosacea is a chronic inflammatory disease of the skin characterized by facial papules, pustules, erythema, and telangiectasia. Emotional factors such as stress and anxiety may induce and aggravate the symptoms of rosacea. It is hypothesized that tongue acupuncture, a technique that has been used successfully in the treatment of various neurological and psychiatric diseases, could be beneficial in relieving rosacea symptoms. This study evaluated the immediate effect of tongue acupuncture at specific anatomical points in the treatment of rosacea. A case study was conducted on a 27 years old woman with the diagnosis of rosacea, complaining of redness, pustules, burning sensation, stinging, and itching on the face. The study used the tongue acupuncture points of heart, stomach, lung, and head. The temperature was measured with the thermograph (FlirE5) at room temperature (20 °C) within 1.0 meter distance from the patient and 1.5 meter distance from the ground. For this, photographs were taken three times, first, before starting the tongue acupuncture treatment, second, directly after the stimulation of the points, and third, fifteen minutes after acupuncture. A difference was observed fifteen minutes after acupuncture in the average temperature of the regions, right cheek (32.9 °C), left cheek (33.1 °C), and nose (33.6 °C). However, in the other regions, the temperature was maintained or slightly raised.



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The present study indicates that tongue acupuncture has immediate and slight effects over facial temperature, and can provide some relief in the symptoms. Further studies on a larger sample size must be conducted for a better understanding of the mechanisms of tongue acupuncture on dermatologic diseases such as rosacea.

Keywords

Acupuncture; tongue acupuncture; rosacea; Chinese medicine

1. Introduction

Rosacea is a chronic dermatological disease characterized by the presence of an inflammatory and infectious process in the facial regions such as the nose, forehead, chin, and cheeks. Individuals with this disease may appear flushed in some regions of the face, which may last indefinitely, and may cause papules, telangiectasia, itching, burning sensation, dryness, edema, and thickening of the skin in the flushed area [1, 2].

This occurrence of rosacea is higher in females than in males, and the etiology is still unknown. However, there are some theories that rosacea may be caused by genetic predisposition associated with environmental and emotional factors, which promote the manifestation of clinical signs [3, 4].

According to the spectrum of Chinese medicine, rosacea may be caused by the heat in the blood (*Xue*) and, in some cases, heat toxicity generates phlegm, thus disabling the lung (*Fei*) to maintain its circulatory function, causing external stasis, on the Skin (*Pi Bu Zone*). This stagnation malnourishes the blood (*Xue*), causing a change in the stomach (*Wei*). The heart (*Xin*) receives and moves this hot and malnourished blood (*Xue*), and may have some trouble in refreshing; therefore, the individual with rosacea present flushed areas.

In Chinese medicine, the tongue is widely used as a means to evaluate the organs and viscera (*Zang Fu*). Dr. Sun Jie Guang realized that using the principles of skin visceral reflex, the tongue could also be used for treatment. Tongue acupuncture has been widely studied to treat neurological as psychiatric diseases. Accordingly, it could be used to treat rosacea because its other etiological factors include genetic and emotional factors [5, 6].

The study aimed to:

- Evaluate the immediate effect of lingual acupuncture on the treatment of rosacea.
- Assess immediate temperature changes in the rosacea patient's face.

This research was approved by the Research Ethics Committee of the Brazilian College of Chinese Medicine, based on the requirement of Resolution 466/2012 of the National Health Council. The project was approved in 09/20/19, with the approval number: 2019.0102.

The patient was contacted by the researchers and invited to participate to this study, and before accepting, the participant was informed about all the procedures and invited to sign an informed consent form.

2. Materials and Methods

A case report was prepared of a 27 years old woman with the diagnosis of rosacea, complaining of redness, pustules, burning sensation, stinging and itching on the face, and was invited to participate in the current study, after signing an informed consent form. The participant never used any medication to treat rosacea and only used special soaps and sunscreens.

The thermograph model FlirE5 (FLIR Systems, Inc., Oregon, United States of America) was procured by the Brazilian College of Chinese Medicine. A camera was used before and after the treatment to evaluate whether the stimulation of selected points presented any difference in the participant's facial temperature. For the evaluation, different selected zones were forehead, cheeks, nose, eyes, and mouth.

To perform the procedure, the patient was asked to sit comfortably in a chair, and photographs were taken from a distance of 1.0 meter from the patient, and 1.5 meters from the ground. The room temperature was set at 20 °C; the patient and the therapist waited fifteen minutes for the participant's body to adapt to room temperature before the procedure started. Prior to the adaptation process, one photograph was taken, focusing on the evaluation of the results. Three images were taken, one before the procedure, one immediately after the stimulation of the points, and the third, after fifteen minutes of stimulation. The participant was previously instructed not to consume beverages or foods (Example: Coffee, Alcohol, Pepper, etc.) that could cause alteration in the face before the session.

For the stimulation of the selected points, a stainless steel needle (0.20X0.75–Dong Bang) was used (Figure 1), which was discarded after the stimulation. The stimulus performed felt like little bites (3 to 5 times), and this manipulation was made by superficially puncturing the points until changes were observed in the color of the needle region and the patient's eyes. The selected points are listed below and localized in Figure 2A and Figure 2B:

- Heart – Selected for its function in calming the Heart (*Xin*), because the Mind (*Shen*) lodges in this organ (*Zang*) and is used for governing the blood (*Xue*) and blood vessels (*Xue Mai*).
- Stomach – Selected for its role in giving rise to body fluids.
- Lung – Selected for its opening in the nose, circling and controlling the waterway and the exterior.
- Head – Corresponding zone of the face, and treating this region and tranquilizes the mind.



Figure 1 Acupuncture needle used.

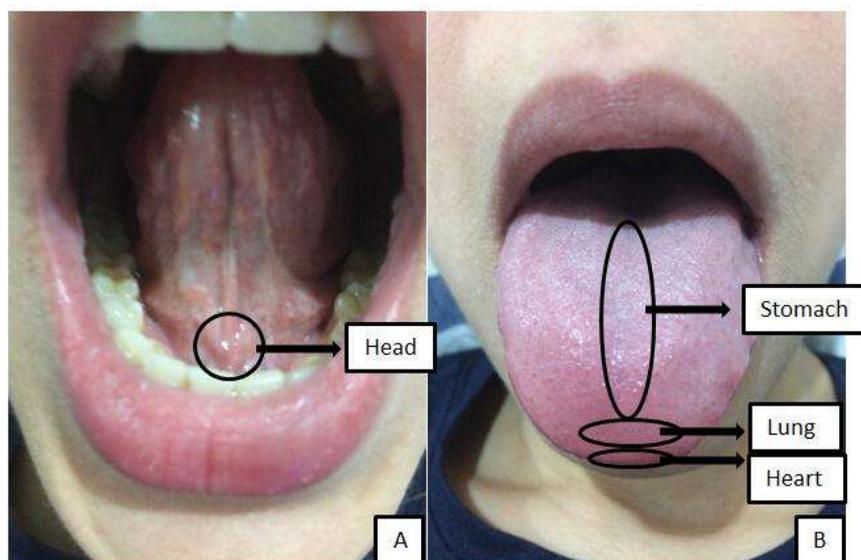


Figure 2 Patient tongue (A = Venter and B = Back) before the procedure.

3. Results

Before adapting to the room temperature, a photograph was taken to evaluate the results of the procedure before and after room adaptation. The regions of the forehead (E1), right cheek (E2), left cheek (E3), nose (E4) and mouth (E5) are highlighted in Figure 3A, while the regions of the eyes, presented as the right eye (E1) and left eye (E2) are highlighted in Figure 3B.

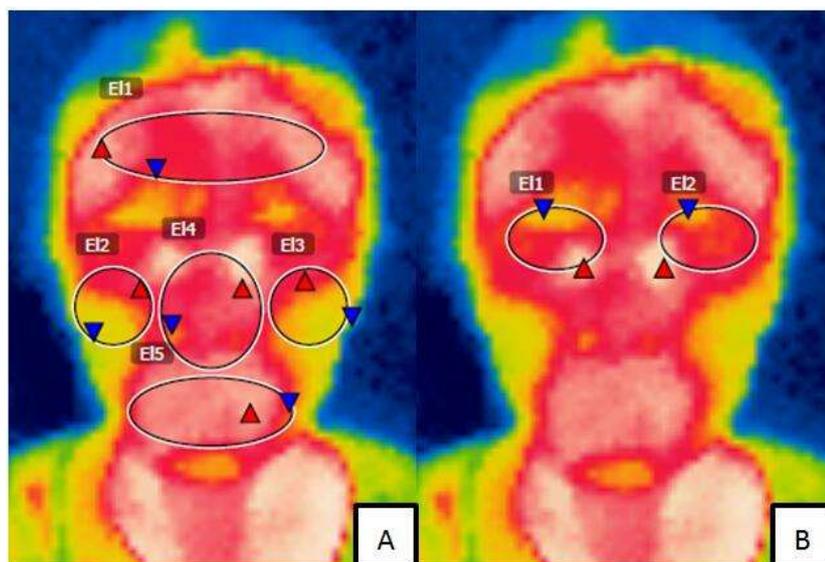


Figure 3 Thermographic images taken before the adaptation period and tongue acupuncture. Note: The blue triangle is for minimum temperature and the red one is for maximum temperature.

The tongue stimulation at selected points caused changes in the temperature of the participant's forehead, nose, mouth, cheeks, and eyes immediately after the treatment and fifteen minutes later (see Figure 4 and Figure 5).

On comparing the forehead, nose, mouth, and cheeks regions, we observed differences in the

average temperature in the three specified time shots (Figure 4). The temperature was lower before the procedure (Figure 4A) than immediately after the procedure (Figure 4B), while there was a slight decrease in the temperature fifteen minutes after the procedure completed (Figure 4C) compared to the temperatures immediately after the procedure (Figure 4B).

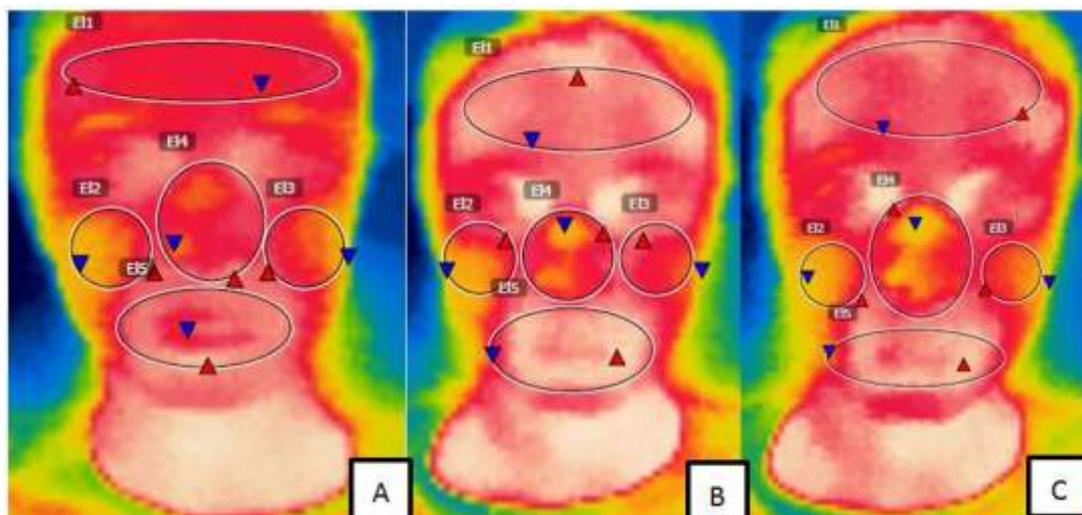


Figure 4 Thermographic images of forehead, nose, mouth, and cheek regions. Legend: A: Before procedure; B: Directly after; C: Fifteen minutes later. Note: The blue triangle is for minimum temperature and the red one is for maximum temperature.

On comparing the regions of the eyes, there were some variations in the average temperature in the three images acquired at specified times (Figure 5). Before the procedure, the temperatures of regions were: E1 (29.8 °C) and E2 (29.7 °C) (Figure 5A), and directly after the procedure, there was an increase as E1 (35 °C) and E2 (35.4 °C) (Figure 5B). Fifteen minutes after the procedure, a slight decrease in the temperature of regions E1 (34.9 °C) and E2 (35.1 °C) was observed (in Figure 5C).

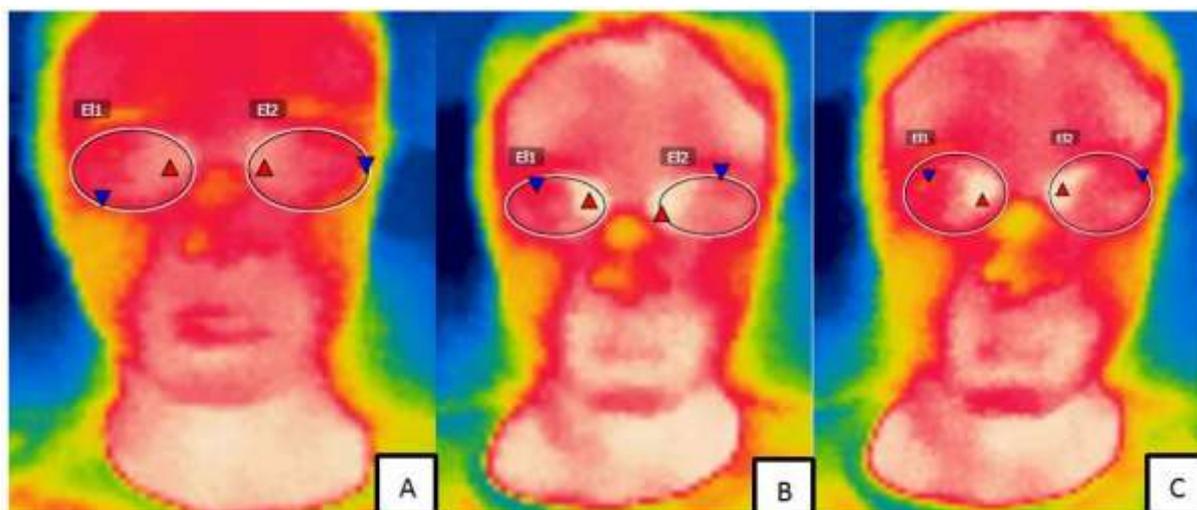


Figure 5 Thermographic images of the eye region. Legend: A: Before procedure; B: Directly after; C: Fifteen minutes later. Note: The blue triangle is for minimum temperature and the red one is for maximum temperature.

The graphical representation of average temperature differences in the regions of the face (Figure 6) and the eyes (Figure 7).

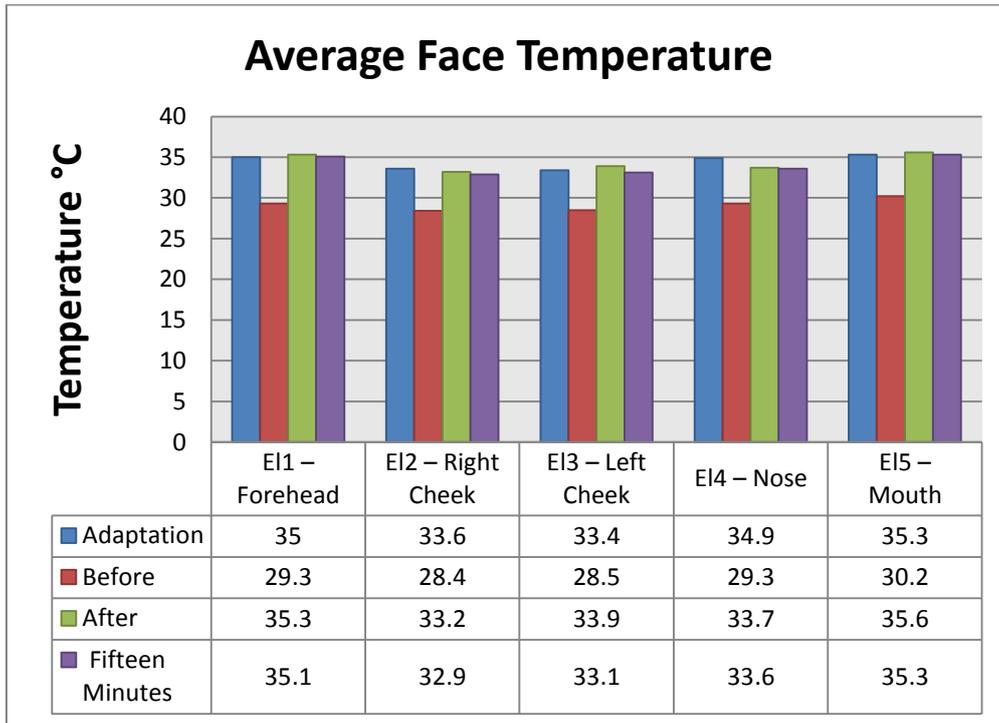


Figure 6 Differences in the average temperature of the face.

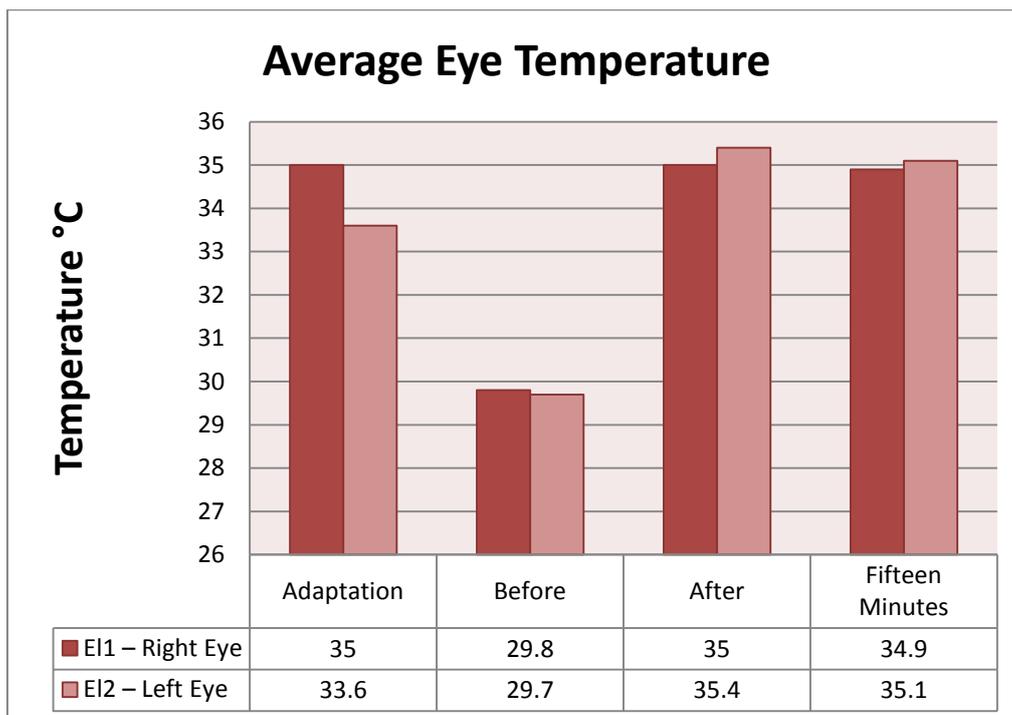


Figure 7 Differences in average temperature of the eyes.

The graphical representation of maximum temperature differences in the regions of the face (Figure 8) and the eyes (Figure 9).

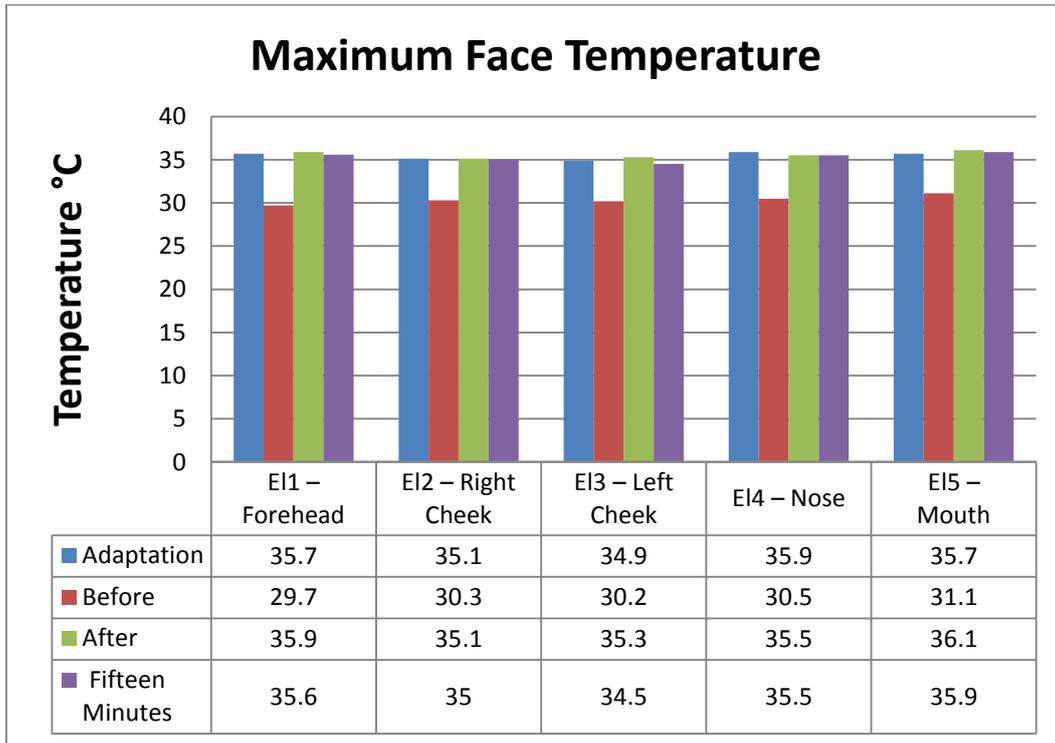


Figure 8 Differences in the maximum temperature of the face.

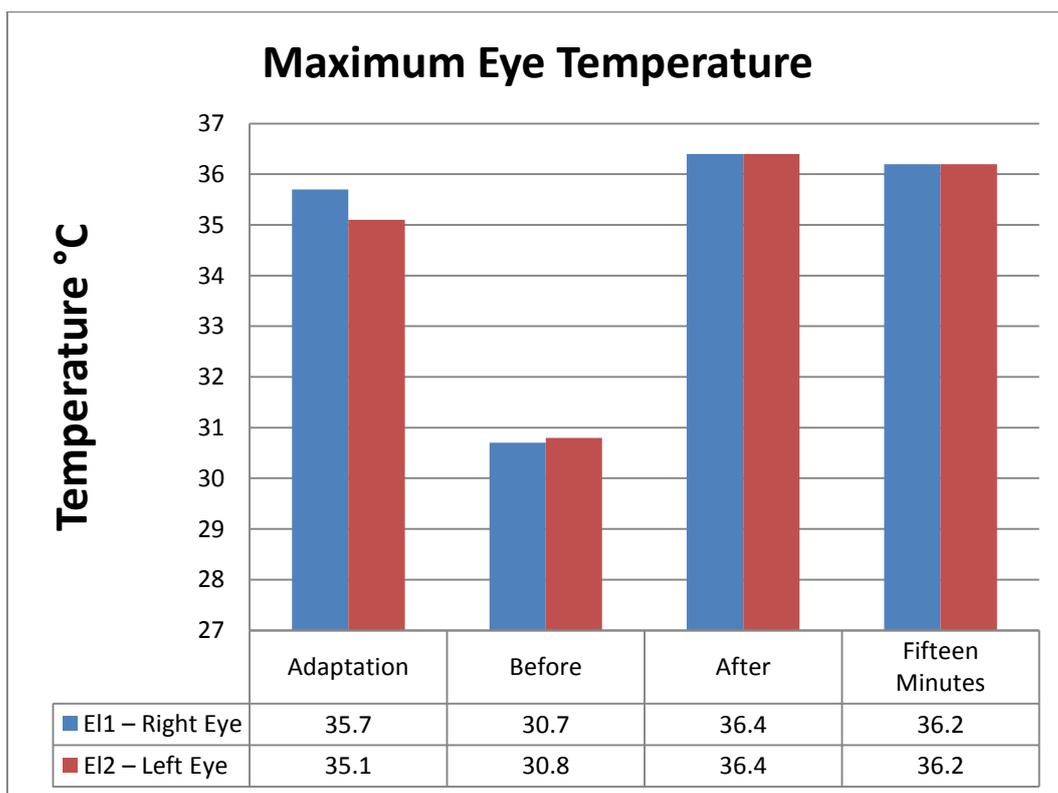


Figure 9 Differences in maximum temperature of the eyes.

The graphical representation of minimum temperature differences in the regions of the face (Figure 10) and the eyes (Figure 11).

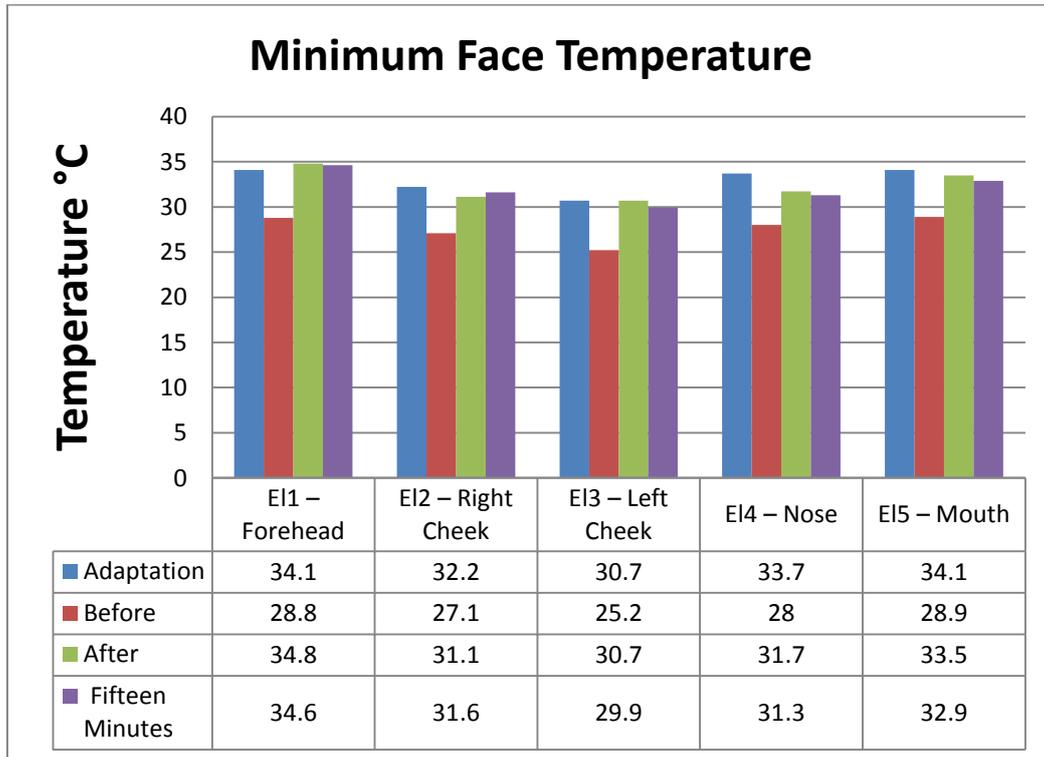


Figure 10 Differences in the minimum temperature of the face.

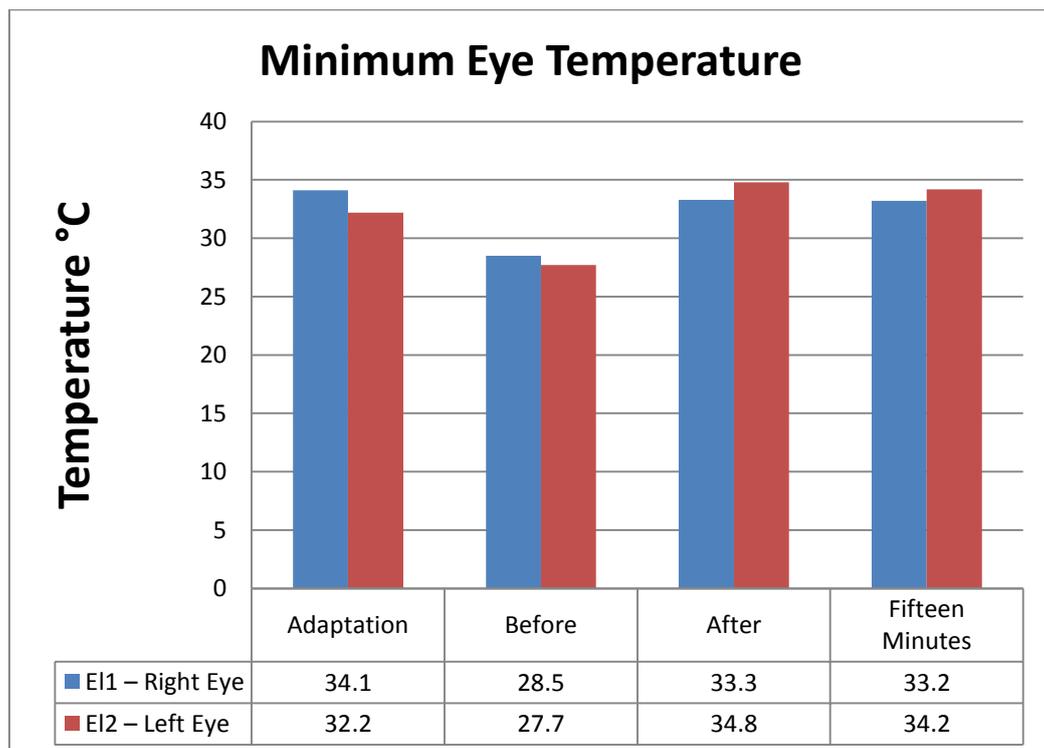


Figure 11 Differences in minimum temperature of the eyes.

4. Discussion

Some studies report the use of herbs [3] and acupuncture for treating dermatological diseases since 226–210 BC [7]. Recently, Gao et al. [8] used acupuncture to treat a patient with rosacea, and observed positive changes around the patient's nose within three sessions. Here, the temperature changes were observed in minutes, and one month later, the patient informed the therapist about the decrease in the heat sensation on the nose, even in summer days, besides a decrease in burning, redness, and itching sensations. She also recorded that the pustules diminished over time.

Despite only a slight decrease in temperature in the right cheek, left cheek, and nose, the patient felt relieved by the stimulus. Acupuncture not only has a vasomotor functionality but liberates the neurotransmitters that can alleviate pain and control symptoms like anxiety, which, in this case, is a factor that started the symptoms and made them worse. The patient's positive report can be explained on these principles, but further studies on a larger number of rosacea patients should be done to establish these outcomes.

The increase in temperature after acupuncture procedure is caused by the vasomotor activity, which induces the increase in blood flow in the target area, promoting the exchange of stagnated blood in this area, causing relief from the symptoms of burning sensation, stinging, and itching in the face. This may be possible because, according to the Chinese medicine theory, the tongue is where the heart opens, like that of eyes and face.

Huang et al. [9] and Li et al. [10] observed an increase in blood flow and temperature during and after acupuncture, but they advised more research on the mechanisms behind these responses after different kinds of stimuli. Nevertheless, in comparison to the outcomes of their research, we can observe a decrease, increase, and stabilization of temperature, when the images taken before and after stimuli were compared.

In neurological terms, the tongue has a variety of innervations that promote a better insight to Penfield's homunculus, in protecting the face from getting hotter in summer days, controlling the responses of the body to the changes in the environment. Napadow et al. [11] observed an antipruritic effect of acupuncture in patients with atopic dermatitis, indicating that using tongue acupuncture may or may not be based on the same principles observed in this study, but to further establish this, our protocol must be further evaluated as per Napadow et al.

During the procedure, the patient reported that she could sense as if someone was giving her face some type of electro stimulatory massage. In Chinese medicine, this is called the *Deqi* or the needling sensation, or the act of mobilizing *Qi* and consequently, blood (*Xue*). This means, that when we provoke a vasomotor activity in a "damaged area" by stimulating the acupuncture points, this place begins to recycle the old blood with new blood, full of oxygen and nutrients.

The needling sensation can be promoted by a variety of manipulations in addition to the time of needle retention on the acupoint, and according to Huang et al. [9] and Li et al. [10], this may lead to a variety of bodily responses to the manipulation method. The results could be more expressive with a stronger or a lighter manipulation, but this may be studied in a larger number of samples.

As earlier mentioned, the patients with rosacea suffer from a malfunction of the circulating system from the Heart and Lung; the function can be recovered with the *Deqi*, but to fulfill this treatment, the patient may need more sessions and a longer evaluation of the responses.

Besides the small sample size, our manipulations could lower the temperature in some parts of

the face, although the difference was little, to the patient, this was sufficient to improve some symptoms.

5. Conclusions

Tongue acupuncture led to immediate results in the temperature of the target area, and even with the slight changes, the patient felt relief in the symptoms. Although the data are satisfactory, it is necessary to complement the study on a larger sample size and a longer intervention time so that the results can be widely discussed. This type of study may bring benefits in understanding the processes involving rosacea according to Chinese medicine and even help analyze the effects of using tongue acupuncture in the treatment of this condition.

Author Contributions

Reginaldo Filho coordinated and developed the manuscript. Paulo de Oliveira developed the manuscript, captured the pictures and attended the patient.

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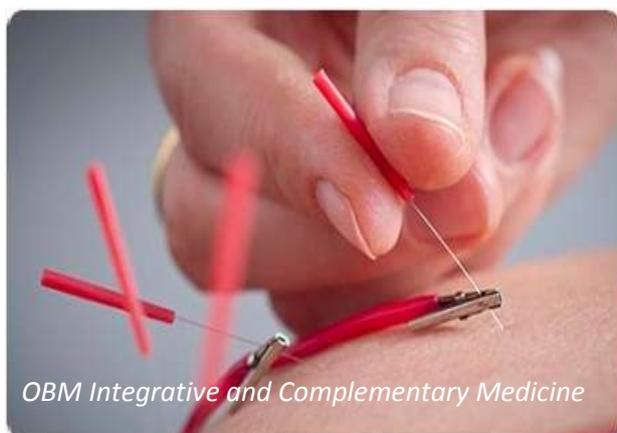
Competing Interests

The authors have declared that no competing interests exist.

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