

Influence of Summer and Winter on Lip Prints

Dr. Mridali Mehta

Abstract

Introduction: Identification of humans is of utmost importance in forensic identification as it helps in criminal investigation. Chelioscopy is a type of forensic investigation technique that deals with the identification of humans based on their lip prints.

Materials and Methods: The study comprised 10 healthy individuals of 5 males and 5 females, in the age group of 25-30 years, and belonged to people within my family. Informed consent was obtained from all the subjects. The lip prints were recorded twice in the month of May and December and in the years 2021 and 2022.

Results: Lip prints that were collected in two different seasons did not show any gross changes.

Conclusions: Lip prints do not show any kind of variation in different seasons and thereby confirm the permanence of lip prints.

Keywords: Chelioscopy, Lip print pattern, Forensic identification.

Introduction

Identification of humans is of utmost importance in forensic identification as it helps in the criminal investigation. Chelioscopy is a type of forensic investigation technique that deals with the identification of humans based on their lip prints. R. Fischer in 1902, was the first person to recognize the presence of several unique lines on the human lips. During the years 1968-1971, Yasuo Tsuchihashi and Tazuo Suzuki examined 1364 lip prints and concluded that lip prints are as unique as fingerprints.

Materials and Methods

Sample Size and Research Location

The study comprised 10 healthy individuals of 5 males and 5 females, in the age group of 25-30 years, and belonged to people within my family. Informed consent was

obtained from all the subjects. The lip prints were recorded twice in the month of May and December and in the years 2021 and 2022.

Inclusion Criteria

Only healthy subjects, free from any oral pathologies, inflammation, abnormalities, or deformities such as cleft lip, cut marks, surgical scars, or lip lesions were included in the study.

Recording of Lip Prints

Still photography was used to record the human lip prints of all 10 subjects. The subjects were made to stand straight against a white background and in natural light. The lips were in natural condition without the application of any lip gloss, lipstick, or having got done any aesthetic procedure such as lip fillers. The photographs were taken using a digital camera.

Classification of Lip Prints

Lip prints classification by Suzuki and Tsuchihashi is the most commonly used. They classified the prints into the following:

Type I- Straight grooves that extend throughout the lip.

Type I'- Straight grooves that are not present throughout the entire breadth of the lip.

Type II- Forked grooves.

Type III- Intersecting grooves.

Type IV- Reticular grooves.

Type V- Undetermined.

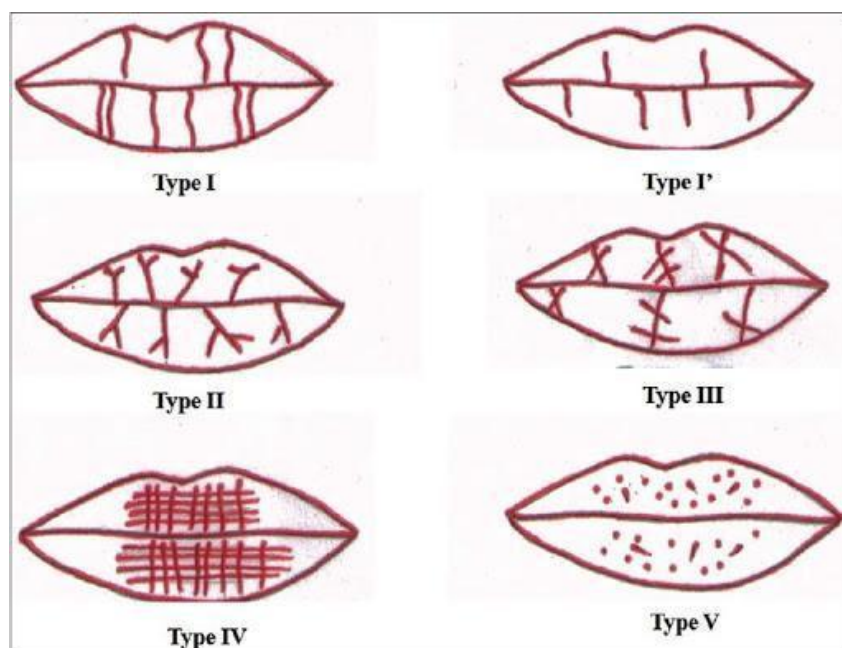


Figure 1: Suzuki and Tsuchihashi Lip Prints Classification

Observation

The lip prints were collected in two different months, May and December in the years 2021 and 2022 did not show any gross changes in any subject. The lip prints did not show any gross changes. Although no lip prints showed the same pattern thus making them unique as stated by Yasuo Tsuchihashi and Tazuo Suzuki. The two samples collected in two different seasons were analyzed and looked for any change.



Figure 2: Lip Prints of a female. The lip print on left was taken in May 2021 and the lip print on right was taken in December 2021. None of the two lip prints shows any gross changes.

Discussion

To date, Chelioscopy, or the study of lip prints in forensic identification has not gained widespread recognition. Lip prints as a means of forensic identification have a big advantage over fingerprints. Criminals can easily mask their fingerprints with self-inflicted wounds in an attempt to destroy them and conceal their identity. On the other hand, lip prints cannot be destroyed or even attempted to be destroyed. Lip prints like fingerprints are unique and no individual has the same lip print.

Another advantage of lip prints is that they do not change during the lifespan of a person. Superficial injuries only cause temporary changes which on healing regain their normal color and pattern. As seen in this paper, lip prints were taken in the month of May and December in the years 2021 and 2022 of 5 females and 5 females which showed no gross changes.

Nevertheless, more detailed studies need to be done on lip prints and their advantages in forensic identification.

Conclusion

Thus, it is concluded that lip prints do not show any kind of variation in different seasons and thereby confirm the permanence of lip prints. Even if the lip prints change due to the various environmental factors and pathologies, it has been seen that they reassume their original pattern on recovery. However, lip prints are not studied for a crime scene although they might prove to be a very useful tool.

References

- [1] Borase, A.P. *et al.* (2017) "A Study of Influence of Season on the Lip Prints," *Int J Res Med.*, 6(4), pp. 6–9.
- [2] Obosi, N.J. *et al.* (2022) "A study on the determination of sex using lip print patterns among indigenes of Akwa Ibom State, Nigeria," *Journal of Forensic Science and Research*, 6(1), pp. 17–23.
- [3] Rao, G.V. and Kiran, G. (2016) "Assessment of lip print patterns in South Indian population-role in Forensic Medicine," *Asian Pacific Journal of Health Sciences*, 3(4), pp. 224–227.
- [4] Shah, K.K. and Jayaraj, G. (2015) "Cheiloscopy for Sex Determination among Individuals Aged 17-25 Years," *J. Pharm. Sci. & Res.*, 7(9), pp. 731–735.
- [5] Afiah Amani Binti Zaaba, N. and S, G. (2020) "Cheiloscopy: The study of lip prints in sex identification between Indian and Malaysian population," *Indian Journal of Forensic Medicine & Toxicology*, 14.
- [6] Sharma, P., Saxena, S. and Rathod, V. (2018) "Cheiloscopy: The study of lip prints in sex identification," *Journal of Forensic Dental Sciences*, 1(1), p. 24.
- [7] D., D.A., Prabhu, R.V. and Prabhu, V. (2010) "Collection of Lip prints as forensic evidence at the crime scene – An insight," *Journal of Oral Health Research*, 1(4).
- [8] Prabhu, R.V., Dinkar, A. and Prabhu, V. (2013) "Digital Method for lip print analysis: A new approach," *Journal of Forensic Dental Sciences*, 5(2), p. 96.
- [9] B, A. *et al.* (2018) "Evaluation and comparison of various methods of lip prints in gender determination and its stability over a period of time," *International Journal of Anatomy and Research*, 6(2.1), pp. 5167–5171.
- [10] Abedi, M., Afoakwah, C. and Bonsu, D.N. (2020) "Lip Print Enhancement: Review," *Forensic Sciences Research*, 7(1), pp. 24–28.
- [11] Alzapur, A., Nagothu, R.S. and Nalluri, H.B. (2017) "Lip prints- A study of its uniqueness among students of MediCiti Medical College," *Indian J Clin Anat Physiol.*, 4(1), pp. 68–70.
- [12] Kapoor, N. and Badiye, A. (2017) "A study of distribution, sex differences and stability of lip print patterns in an Indian population," *Saudi Journal of Biological Sciences*, 24(6), pp. 1149–1154.
- [13] Selvamani, M. *et al.* (2016) "STUDY OF LIP PRINT PATTERN IN KERALA SAMPLE POPULATION," *International Journal of Current Research*, 8(11), pp. 41279–41282.
- [14] Thomas, S. *et al.* (2019) "Study on lip prints—to estimate the reliability as a personal identification method," *World Journal of Dentistry*, 10(3), pp. 186–191.