

A Comparative Study of Lip-prints on Bond Paper and Cloth

Chhikara P¹, Singh A²

¹Assistant Professor, Deptt. of Forensic Medicine, PGIMS, Rohtak,

²Assoc. Prof. Deptt. of Community Medicine, SHKM, Mewat

Abstract

Article 6 of the Universal Declaration of Human Rights states that everyone has a right to identity as a person, and its importance cannot be overemphasized anywhere else than in the court of law. The wrinkles and grooves on labial mucosa called as sulci-labiorum forms a characteristic pattern and the study of these is referred to as cheiloscropy. These are unique to an individual just like the fingerprints hence, behold the potential for identification purpose and can be used to verify the presence of a person at the scene of crime. The aim of study was to compare the lip-prints taken on bond paper and cloth.

The study was done in north Haryana from 2010-11 on 100 subjects. Purposive sampling was done and subjects were asked to produce lip prints on cloth as well as on bond paper. The data obtained using these two base materials were analyzed for any difference in results using Fischer's exact test.

The difference in the result between the lip prints obtained using bond paper and cloth was found to be statistically non-significant. Hence, it can be concluded that lip prints present on the cloth of the accused as in crime scene can be compared with samples obtained on bond paper.

Keywords: Identification, Lip-prints

Introduction

Identity means determination of individuality of a person beyond doubt, based on physical characteristics unique to an individual¹. Article 6 of the Universal Declaration of Human Rights states that everyone has a right to identity as a person, and its importance cannot be overemphasized anywhere else than in the court of law².

The question of identification of a living person arises everyday in civil & criminal cases alike ranging from unlawful possession of property, insurance claims, prolongation of lapsed pension to absconding soldiers, criminals accused of assault, rape, sodomy or murder.

Although DNA & finger printing have been successful in personal identification, DNA matching is a technically complex procedure and requires high

quality laboratory facility which is not readily available everywhere in a developing country like ours. Finger prints on the other hand are prone to damage due to damage to hand as a result of wear & tear.

The wrinkles and grooves on labial mucosa, called as sulci-labiorum forms a characteristic pattern and the study of which is referred to as cheiloscropy. These are unique to an individual just like the fingerprints and hence, behold the potential for identification purpose.

Fischer was the first anthropologist to describe the furrows on the red part of the human lips. The use of lip prints were first recommended as early as in 1932 by Sir Edmond Locard, one of France's greatest criminologists. LeMoyne Snyder in his book Homicide Investigation, written as early as 1950, mentions the possible use of lip prints in the identification of individuals³. Lip-prints can be instrumental in identifying a person positively and used to verify the presence or absence of a person at the scene of crime⁴, especially in cases of heinous crimes against women.

Corresponding Author:

Dr Pankaj Chhikara

Assistant Professor, Deptt. of Forensic Medicine,
PGIMS, Rohtak. Ph: 8607702777

Email: drchhikara@gmail.com

The current practice is to take lip-prints on paper or cellophane sheets⁵ whereas those found on crime scene are mainly on cloth and glass. Therefore, keeping this source of potential error in mind, this study was designed to adjudge the comparability of lip-prints obtained on cloth and bond paper.

Aim

The aim of the study was to compare the lip-prints taken on bond paper and cloth.

Material & Method

The study was done at a tertiary care centre in north Haryana from 2009 to 2011 on 100 subjects from various age groups.

Inclusion criteria: All consenting adult individuals with healthy lips.

Exclusion criteria: Subjects with deformity/injury & disease over lips were not included in the study.

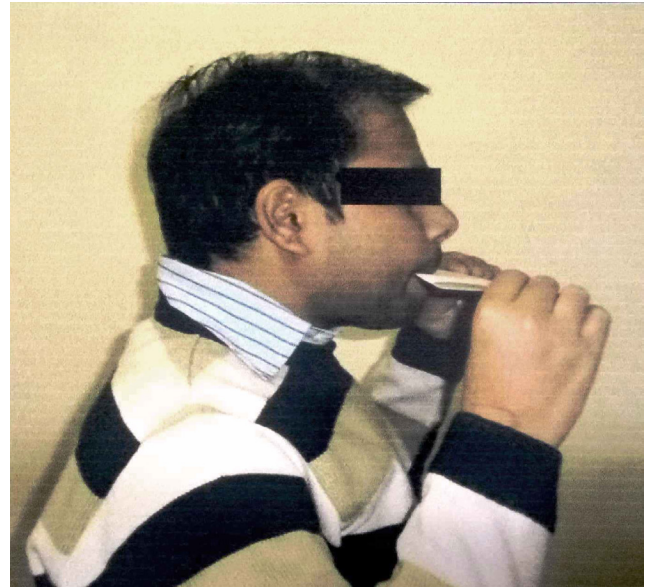
Consent was taken from participants after explaining the purpose and procedure of the study.

Purposive sampling was done and subjects were asked to produce lip prints on cloth as well as on bond paper as follows:

1. The subjects were asked to clean his/her lips with water & dry them with tissue paper.
2. A dark coloured frosted lipstick was applied on the lips up to the vermilion border.
3. A bond papers was fixed on cardboard, bearing the serial number & date of sample collection written on top and another piece of white cotton cloth was fixed on cardboard bearing the same serial number & date of collection was given to each subject.
4. The subjects were asked to press his/her lips onto the papers by holding it between the lips, so as to leave a clear impression of their lips on the papers.

5. The samples thus obtained were compared by studying 20 patterns per sample (5 in each quadrant) and coding was done in accordance to Suzuki and Tsuchihashi classification⁶

The data obtained using these two base materials were analyzed for any difference in results using Fischer's exact test.



Photograph showing procedure of sample collection

Results

The following results were obtained among the total hundred cases that were studied.

Five samples were unreadable due to poor quality of lip-prints obtained and hence had to be discarded.

Amongst the remaining Ninety-five samples, Ninety-three showed a complete match. However, two samples did not show a complete match.

The data obtained was analysed statistically using Fischer's exact test and the difference in the results between the lip prints obtained on bond paper and cloth was found to be non-significant.

Table depicting comparison of print on bond paper vis a vis cloth (* Out of 100 samples taken 5 were discarded)

Lip Print	Bond Paper			
		Quadrant Matched	Quadrant Unmatched	
Cloth print	Matched	93	0	p-value 0.0004
	Unmatched	0	2	
	Total	93	2	95*

Discussion

Various studies have been conducted for determining feasibility & reliability of lip-prints as a tool of identification.

However, no similar study with regards to comparison of material used as base for sampling was available for comparison.

Conclusion

The statistical analysis of data obtained in this study shows that there is no significant difference in the lip print obtained on cloth as compared to those on bond paper. Hence, it can be safely concluded that lip prints present on the cloth of the accused at the crime scene can be compared with samples obtained on bond paper.

Conflict of Interest: No conflict of interest declared.

Source of Funding: Self

Ethical Clearance: Ethical clearance taken from institutional ethical committee.

References

1. Parikh CK, Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology 6thed, CBS publishers and distributors 2004; 2.1-2.2.
2. Modi JP. Medical Jurisprudence and Toxicology. 23rd ed. New Delhi, LexisNexis Butterworths publications; 2005; p263.
3. Synder LM. Textbook of homicide investigation. Identification of dead bodies. 1950.
4. Utsuno H, Kanoh T, Tadokoro O, Inoue K. Preliminary study of post mortem identification using lip prints. Forensic Sci Int. 2005;149:129-32.
5. Saraswathi TR, Mishra G, Ranganathan K. Study of Lip prints. Journal of Forensic Dental Sciences.2009; 1(1):28-31.
6. Tsuchihashi Y. Studies on personal identification by means of lip print. Forensic Sci Int. 1974; 3:233-48.