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Research Article

CORRELATION OF LIP PRINTS AND BLOOD GROUPS: AN AID IN FORENSIC SCIENCE

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A B S T R A C T

Forensic dentistry represents an overlap between the dental and the legal professions. It plays a major role in the person identification. Several structures of human body abetted with various methods do exist for forensic evaluation. Lip prints play a vital role in transfer of evidence and are considered similar to finger prints in forensic and personal identification. We conducted this study to ascertain the prevalence of different blood groups in different lip patterns and to identify gender on the basis of lip print patterns to find a co- relation between lip prints with blood groups which can further help out in forensic identification.

INTRODUCTION

Forensic science refers to the application of natural, physical, and social sciences to matters of the law. In thisnew millennium society is faced with fresh challenges in every conceivable area. Identification of an individual is a pre-requisite for personal, social and legal reasons and for the certification of death. It was differently described by various authors carrying out research. The traditional method for personal identification includes Anthropometry, finger prints, Lip print, DNA finger typing, Bite marks, Blood groupetc. In all the selip prints play a vital role in transfer of evidence and for identification of a person based on the characteristic arrangement of lines appearing on the red part of the lips. Study of lip prints is known as cheiloscopy. 'Cheilo' is a greek word meaning Lip and 'Scopy' means to examine. The pattern on the lips which consists of the wrinkles varies from person to person and remains unchanged throughout life. Thus, lip prints may be used effectively for personal identification.

Correlating lip prints with blood groups may be useful in forensic science for more accurate identification of an individual than with the use of lip prints alone. No evidence exists to correlate lip prints and blood groups in the literature.

MATERIAL AND METHODS

A bibliographic survey was carried out on the methods, cheiloscopyas a forensic aid in whicha total of 200 subjects (males=70, females=130) were included in this study.

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We used Loreal wine red and pink colour lipstick no.18 for taking samples. Lipstick was applied over the lips with standard application technique and the subject was asked to apply his/her lips over the surface of the paper freely without stretching. White tracing paper were used for collecting sample for record and tracing paper was carefully lifted after gentle application of pressure for few seconds, lip prints were obtained.

With the help of magnifying glass, the lines and furrows of lip prints, as well as the pattern, were studied. Blood group of each sample was also noted and before starting all the procedure ethical clearance and informed consent was taken from respected organization.

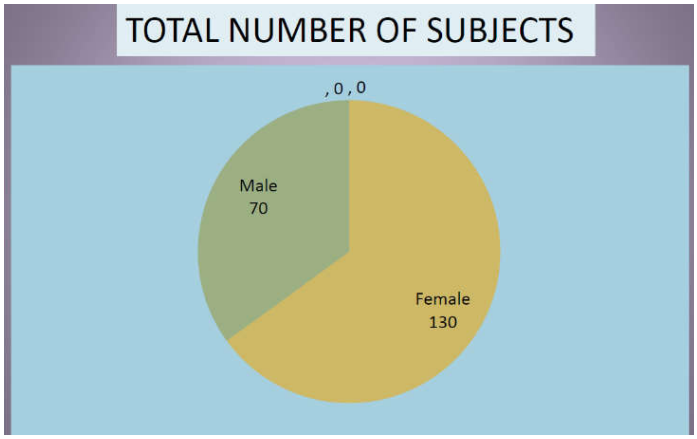
Inclusion Criteria

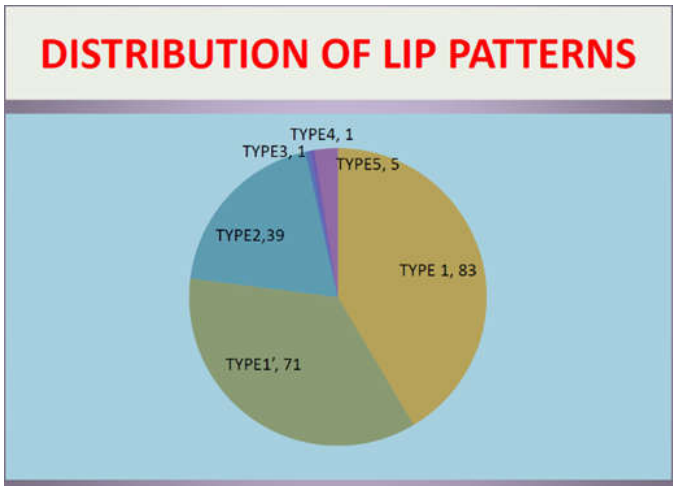
Subjects with lips free from any active or passive lip lesions who gave consent and reported no hypersensitivity to lipstick were included in the study. Subjects who are willing to participate in the study.

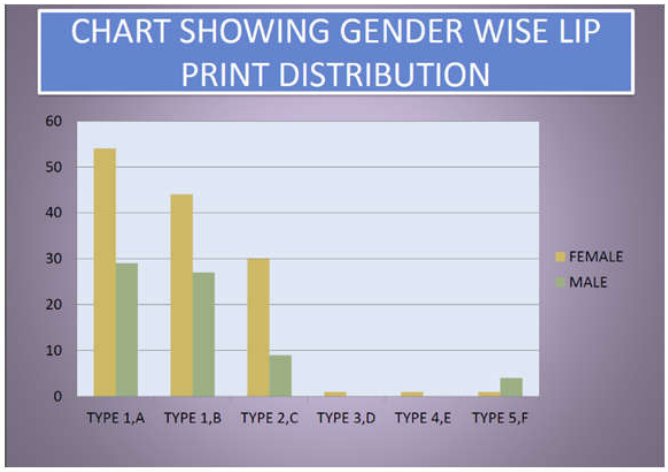
Exclusion Criteria

Subjects who underwent lip surgery, history of trauma to the lips, developmental lip anomaly and those who are not willing to participate.

RESULTS







Blood group A+: = 20 Males
The most prominent pattern noted was type 2 (7), followed by
Type 1(5)
Type 1'(4)
Type 3(3)
Type 4(1)
Type 5(0)

Blood group B+ = 30 males
The most prominent pattern noted was type 1(12), followed by
Type 2(7)
Type 3(5)
Type 1'(3)
Type 4(2)
Type 5(1)

Blood group O+ = 20 males
The most common pattern noted was type 2(8), followed by
Type 1(6)
Type 1'(3)
Type 4(2)
Type 5(1)
Type 3(0)

Blood group A+ = 23 females
The most common pattern noted was Type 2(11), followed by
Type 1'(6)
Type 4(3)
Type 3(2)
Type 5(1)

Blood group B+ = 78 females
The most common pattern noted was Type 1(30), followed by
Type 1'(20)
Type 2(14)
Type 3(8)
Type 4(4)
Type 5(2)

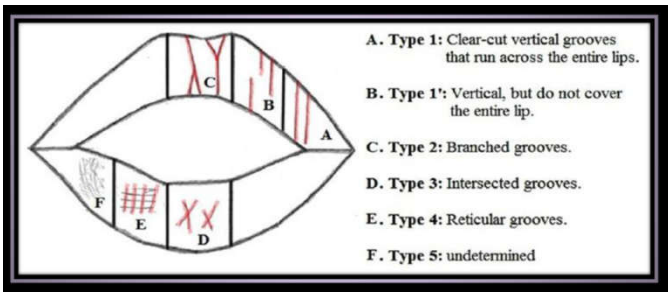
Blood group O+ = 16 females
The most common patten noted was type 2(6), followed by
Type 1'(4)
Type 1(3)
Type 3(2)
Type 4(0)
Type 5(1)

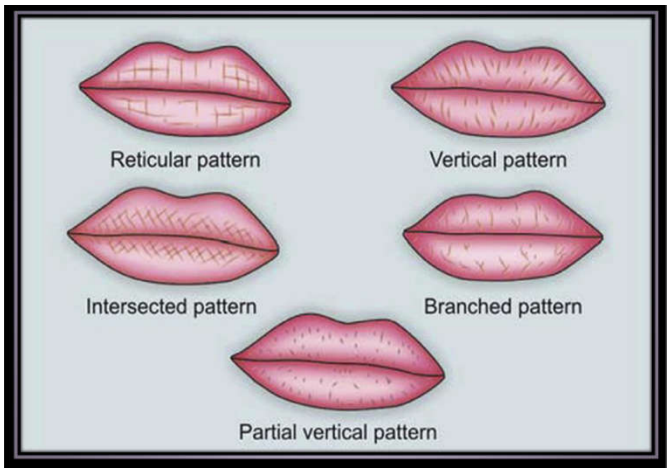
Blood group
O-, AB+, A-blood groups were only recorded in females
O-= 1 female ,type III prominent pattern.
AB+= 7 females
type 1 (4)
type 1'(2)
type 4(1)
A-= 5 females
type 1(3)
type 2(2)

Table Showing Pattern Seen With Their Blood Groups

Blood group	TYPE 1	TYPE 1'	TYPE 2	TYPE 3	TYPE 4	TYPE 5	
A+		13	30				
B+	60	40	6	1	1		
AB+		7					
O+	20	10	1			5	
O-		1					
A-	3		2				
TOTAL	83	71	39	1	1	5	=200

Suzuki and Tsuchihashi LIP Print Classification





DISCUSSION

This study was carried out to evaluate the common lip-patterns and their variations in the study population, and to evaluate the differences between the gender with there blood groups. In the present study, type1 and type1' lip prints were found to be the most predominant among subjects. Results from the present study are in agreement with those from a previous study conducted by Vahanwal *et. al* (2005). The present study is conducted on indo-aryan population and the study which is conducted by Sivapathasundharam was on indo-dravidian population. The lips which were studied were only those which had no inflammatory disease, trauma, malformation, deformity or scars. However, these abnormalities themselves are identification marks. In the present study the most prominent lip pattern seen in boys was type 1(complete vertical), in girls was type 2 (branched grooves) and among both boys and girls it was also type 2 (branched grooves).

CONCLUSION

Although lip print identification has been utilized in the court of law in isolated cases, more research needs to be conducted in this field, with regard to confirmation of its uniqueness. Hence Cheiloscopy to be carried out in depth on larger sample size using newer scientific technologies.

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