ORIGINAL ARTICLE

Assessment of cheiloscopy in sex determination using lysochrome - A preliminary study

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Abstract

Introduction: The present study was undertaken with the objective of ascertaining whether latent lip prints generated by persistent lipsticks and developed using lysochrome dyes have the potential of use in sex determination and personal identification. **Materials and Methods:** This study included a total of 100 subjects (50 males and 50 females) whose latent lip prints were obtained by applying the persistent lipstick Revlon ColorStay Overtime® manufactured by Revlon® consumer products corporation, NewYork, USA, and lifting the prints with cellophane sheets. The prints were then developed using lysochrome dyes, and all the samples were blinded and then graded based on defined patterns from the Suzuki and Tsuchihashi classification. **Results:** No two lip prints were found to be alike. Type I was found to be the most prevalent type. In the female population, Type I (61%) was most prevalent, followed by Type I' (28%), Type II (9%), Type III (2%), Type IV (1%), and Type V (1%); in the male population, Type I (33%) was most prevalent, followed by Type II (23%), Type III (18%), Type IV (14%), Type I' (10%), and Type V (3%). Two examiners were able to determine the correct sexes from the given sample sizes. Their interobserver agreement was assessed using the kappa coefficient for males (κ =0.870) and females (κ = 0.870). Their accuracy was assessed with a confidence interval (CI) of 91.48-99.38. **Conclusion:** Lysochrome dyes are very efficacious in developing latent lip prints. This preliminary study has conclusively proved that latent lip prints developed with lysochrome dyes hold the potential for use in sex determination and can be maintained in a digital database.

Key words: Cheiloscopy, forensic odontology, lip prints, lysochrome dye persistent lip sticks, sex determination

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