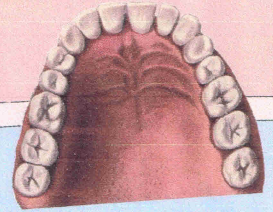




Palatal Rugae Pattern Identification to Determine Family Lineage

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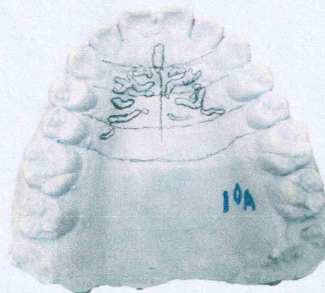
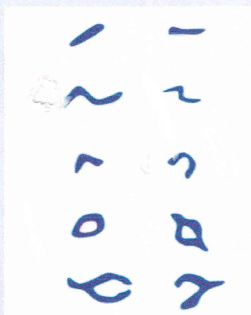


INTRODUCTION :

South-East Asia and especially Indonesia has been struck by natural disasters in the past decades. In the last couple of years Indonesia has dealt with more than 400 natural disasters of which floods, fires, typhoons and soil eruptions are the most common. However, more destructive disasters like earthquakes, tsunamis and volcano eruptions also happen on a yearly basis. (1) Identification of an individual is a prerequisite for certification of death and for personal, social and legal reasons. In forensic medicine, the main methods of identifications used are the DNA test, retina, fingerprints and dental characteristics. DNA testing is the gold standard in forensic science but it is very costly and cannot be conducted for everybody. In many instances, one or all of these methods may not be totally effective or conclusive. (2) Forensic odontology has played a key role in identification of persons in mass disasters, in crime investigations, in ethnic studies, and in identification of decomposed and disfigured bodies like that of drowned persons, fire victims, and victims of motor vehicle accidents. (3) The various methods employed in forensic odontology include rugoscopy, cheiloscopy, bite marks, tooth prints, radiographs, photographic study, and molecular methods. (4) Thus the use of human palatal rugae has also been suggested as an alternative method of identification. (2)

AIMS:

The aim of this study is describe palatal rugae to as secondary data in identification



Rugae Pattern based on Thomas and Khotze classification : (A) Straight Pattern ; (B)Wavy Pattern ; (C) Curved Pattern ; (D) Circular Pattern ; (E)Unification Pattern

DISCUSSION

The potential use of palatal rugae in forensic identification has advantages because of their low utilization cost, simplicity and reliability. It is sufficiently characteristic to discriminate between individuals because no two palatal rugae configurations are alike. This finding is in congruity with results obtained in the similar studies conducted before (11).

There is a hereditary role in the palatine rugae pattern, so it can be an important tool in the identification of a person and determine one's family lineage. On study to patients (30 individuals) attending the Narsinhbhai dental college and hospital, each palatal rugae pattern of the 30 offspring were compared with the corresponding palatal rugae patterns of their respective parents. The present study has shown strong positive and significant correlation of direction pattern of palate rugae between off springs and their parents. (12) Study by Patel was carried out to assess whether there is any hereditary pattern in palatal rugae patterns between the offspring's and their parents. The correlation of palatal rugae patterns, father, offspring, and mother respectively which suggest positive corelation in shape pattern between offspring and their parents .(13) It was sensible that out of 30 families, 29 families the shape of rugae pattern in offspring matched with either of parents.

CONCLUSIONS:

It is sufficiently characteristic to discriminate between individuals because no two palatal rugae are identical. Palatal rugae can be one of the tool for personal identification in forensic odontology. Palatal rugae also can describes the offspring and parent relationship . Palatal rugae identification (rugoscopy) is one of easiest , and cheapest method in disaster victim identification because of uniqueness, stability , and posmortem resistance.

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