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Forensic Vista: Teeth Insight in Particular

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Short Communication

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ABSTRACT

Forensic sciences have its past history of over 300 years. First forensic lab was created in Los Angeles by police department. Forensic have shown its development in the recent past years for its outstanding innovation of detection in mysterious cyber crimes, and several cases.
Forensic sciences possess the new idea developments time to time, for example Bite-mark analysis, the recent innovation in forensic sciences up to date. The present review focuses on different cases of forensic tools in different, especially Forensic Odontology in cyber crimes, discussion shortly, new outcomes and major conclusion.

INTRODUCTION

Forensic dentistry has become an integral division of forensic medicine over the past 100 years (1). Today it is rapidly developing into future Science and Technology. For example areas of science (2) included in forensics are Physical, Biological, chemistry, Rapid DNA Technology (3) and Information and Communication Technologies (recent). In 1837, Saunders dentist was the first to display news regarding dental assessment in age estimation by presenting a paper entitled “Teeth A Test of Age” to the English parliament.

Analysis

Technology has showed its forensic emerging trends: Which are listed in the following discussions:

In cases of Water intoxication (4) where autopsy of two cases reveal that intellectual disabled and hospitalized patients of age 22 and 23 were suddenly found dead. The findings show that the two individuals have drunk enormously before 10 days of their joining into hospital. The individual weights of organs were taken in to consideration. The results showed appropriate swelling of organs individually with increase in weight.

Histological studies are well versed explained and water intoxication lead to loss of consciousness and finally to death. Forensic Odontology (5) plays a vital role in indication of age of individual in reference to primary teeth detection. Examination of teeth has a key role as teeth are least destructible part of human body, especially Pulp/Tooth Area Ratio in Three Mandibular Teeth (6-8).Estimation of the post and ante mortem records is done and four Probable outcomes may arise from such a comparison namely positive identification, presumptive identification, insufficient identification evidence and exclusion of

identification evidence (9). Even Analysis of Enamel Rod End Pattern at Different stages of Enamel has been significantly used in many parts of world at a significant level (10).

Dental evidence is a part of oral autopsy in which examination and evidence collection done in a deceased individual. Erupted tooth present is measured in-situ followed by crown measurements as; mesio-distal (MD), labio-lingual (LL), crown height (CH) is done and calculated for age estimation.

Rugoscopy: It is the technique in forensic science where patterns of grooves and ridges of the palate are identified in individuals. As the technique is rapidly developing but the exact evidence of cases don't show the precise picture (11). Many cases have been done in small group and in criminal cases including the large population it has been really a critical issue. Scientists are seriously in the eve of improving the technique to build up fast ridden results in large population. But Rugoscopy is widely useful regional wise as morphology of rugae differs in people for example Japanese children have wider palatal raphae the Indian children (12). Dentulous and Edentulous measure of rugae studies also marked a proof of forensic odontology (13).

Ideas and Views

Palatal Odontology is widely enhanced field for some researchers according to various cases in the world. Future techniques should be fastened for the rapid analysis in short interval of time as forensics is diversified scientific technology. For example Image Analysis Software using Single Tooth is in the path of further instant investigations in short interval of time (14). Forensic Odontology is haste developing and reliable mode of forensic arena which is seriously progressing for the accurate examination of every criminal case at its own investigation mode.
The criminal laws and justice offers more insight when cases related to odontology are driven as no two people possess the same teeth, and when finger printing is not used in handicapped people (15). Similarly hair is intensively used by all police officials across the world for reliable time to collate various cyber-crimes.

CONCLUSION

Many techniques are in arena of enhancement of forensic research. Serious problem occurs when misuse of tiny evidences regarding forensic technology occur which lead to guilt of unrelated individuals, this may finally take to the path of loss of life. Development of forensics in odontology has been in progress among all dentist researchers all over the world.
Even brain bank technology in forensic is widely used (16 -18), hemoglobin related investigations (19,20), Elements level (21), Corneal opacity determinations (22), ligament animosities investigation (23), Human Hair analysis (24), Diatom Fingerprinting analysis (25), the research have been enormously developing which leads to future cyber organizing element of crime reporting at rapid way.

REFERENCES

1. Singh K et al. Teeth and their Secrets - Forensic Dentistry. J Forensic Res. 2012;3:141.
2. Aurora Valenzuela-Garach. New technologies in forensic sciences. Proceedings of International Conference on Forensic Research & Technology. 2012;USA.
3. Adams GW. Novel Concepts for the Application of Rapid DNA Technology as a Sentinel Event Prophylactic in the Criminal Justice System. J Forensic Res. 2015;6:1000278.
4. Kawashima W et al. Two Autopsy Cases of Water Intoxication. J Forensic Res. 2015;6:271.
5. Sema AP et al. Direct and Indirect Forensic Age Estimation Methods for Deciduous Teeth. J Forensic Res. 2015;6:273.

6. Priyanka S et al. Teeth in Fire - Morphologic and Radiographic Alterations: An In Vitro Study. J Forensic Res. 2015;6:1000277.
7. Afify MM et al. Age Estimation from Pulp/Tooth Area Ratio in Three Mandibular Teeth by Panoramic Radiographs: Study of an Egyptian Sample. J Forensic Res. 2014;5:231.
8. Gandhi N et al. Reliability of Third Molar Development for Age Estimation in Gujarati Population: A Comparative Study. J Forensic Res. 2014;5:242.
9. Manashvini S. Patil. Collection of post and ante mortem data and their significance in forensic odontostomatology. Proceedings of International Conference on Forensic Research & Technology, 2012:USA.
10. Manjunath K and Sivapathasundharam B. Analysis of Enamel Rod End Pattern at Different Levels of Enamel and its Significance in Ameloglyphics. J Forensic Res. 2014;5:235.
11. Kapoor P et al. Rugoscopy: A Diagnostic Appurtenance for Malocclusion or just a Forensic Aid? - A Pilot Study. J Forensic Res. 2015;6:272.
12. Bhullar A et al. Palatal Rugea - an Aid in Clinical Dentistry. J Forensic Res. 2011;2:124.
13. Bhatt G. Comparison of Rugae Pattern between Dentulous and Edentulous Population Rajasthan State. J Forensic Res. 2015;6:254.
14. Shrestha M. Comparative Evaluation of Two Established Age Estimation Techniques (Two Histological and Radiological) by Image Analysis Software using Single Tooth. J Forensic Res. 2014;5:237.
15. Luciana C et al. Forensic Dentistry: An Overview of the Human Identification's Techniques of this Dental Specialty. J Forensic Res. 2014;5:256.
16. Ikemoto k. Forensic Research and Japanese Brain Bank: Legal Problems. J Forensic Res. 2015;6:279.
17. Verma KL et al. Analysis and Detection of Precursor Chemicals Used in Preparation of Narcotic Drugs and Psychotropic Substances – A Forensic Perspective. J Forensic Res. 2015;6:274.
18. Morita S et al. Usability of Histological Assessment of Cerebellar Granule Cell Layer Regardless of Postmortem Interval. J Forensic Res. 2103;4:180.
19. Nishiguchi M et al. An Autopsy Case of Fatal Methemoglobinemia due to Ingestion of Sodium Nitrite. J Forensic Res. 2015;6:262.
20. Minari JB and Mgbada NM. The Frequency of ABO Blood Group among Male Inmates in a Typical Nigerian Prison. J Forensic Res. 2015;6:263.
21. Gallello G et al. Chemical Element Levels as a Methodological Tool in Forensic Science. J Forensic Res. 2015;6: 1000264.
22. Kawashima W et al. Estimating the Time after Death on the Basis of Corneal Opacity. J Forensic Res. 2015;6:269.
23. Clément R and Barrios L. Eagle Syndrome and Sudden and Unexpected Death: Forensic Point of View about One Case. J Forensic Res. 2014;5:230.
24. Khan A et al. Human Hair Analysis among Four Different Castes Having Potential Application in Forensic Investigation. J Forensic Res. 2014;5:215.
25. Vinayak V et al. Diatom Fingerprinting to Ascertain Death in Drowning Cases. J Forensic Res. 2013;4:207.