

Analysis of Expert Possibilities While Identifying Human Teeth

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Abstract : Forensic investigation of human teeth plays an important role in detection of crime, particularly in cases of personal identification of dead bodies changed by putrefactive processes or skeletonized bodies as well as when finding bodies of unknown persons. 152 teeth have been investigated; 85 of them belonged to men and 67 belonged to women taken from alive people of different age. Teeth have been investigated after extraction. Two types of teeth have been investigated: teeth without integrity violation of dental crown and teeth with different degrees of its violation. Additionally, 517 teeth have been investigated that were collected from dead bodies, 252 of which belonged to women and 265 belonged to men, whatever the cause of death with death limitation from 1 month to 20 years. Isohemagglutinating serums and Coliclons of different series have been used for the research of tooth-group specificity by serological methods according to the AB0 system. Standard protocols of different techniques have been used for DNA purification from teeth (by reagent Chelex 100 produced by Bio-Rad using reagent kit 'DNA IQTM System' produced by Promega company (USA) and using columns 'QIAamp DNA Investigator Kit' produced by Qiagen company). Results of comparative forensic investigation of human teeth using serological and molecular genetic methods have shown that use of serological methods for forensic identification is sensible only in cases of preselection prior to the next molecular genetic investigation as well as in cases of impossibility of corresponding genetic investigation for different objective reasons. A number of advantages of methods of molecular genetics in the dental investigation have been marked, particularly in putrefactive changes, in personal identification. Key moments of modern condition of personal identification have been reflected according to dental state. Prospective directions of advance preparation of material have been emphasized for identification of teeth in forensic practice.

Keywords : dental state, forensic identification, molecular genetic analysis, teeth

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