



JOURNAL of FORENSIC ODONTO-STOMATOLOGY

VOLUME 31 Supplement 1 October 2013
Abstract book IOFOS Conference 2013 Firenze

IDENTIFICATION OF PERSONS BY THE METHOD OF TRACE CONTOUR CONTRAST IATROGENIC INTERVENTIONS ON PANORAMIC X-RAYS

Yevhen Kostenko

**Medical Doctor, PhD, Professor, Dean of the Dental Faculty at Uzhgorod National University, Director of the Scientific and Educational Centre of Forensic Dentistry, President of the Association of Forensic Odontology in Ukraine, Head of the Transcarpathian Regional Court of Dental Orthopedic Association and Dental Technicians of Ukraine, Chief Doctor of the University Dental Clinic of Uzhgorod National University, Ukraine*

The author declares to have no conflict of interest.

Background: Among the known methods of computer identification by dental status in EU countries are using DVA (Dental Visual Algorithm), which are used by Interpol for installation and identification of deceased individuals. The principle of this program is compared reports [post mortem and ante (italic) mortem], which are entered into the program as a cipher for each tooth, and has additional information. Designed similar domestic program takes into account the treatment and rehabilitation of common dental diseases in our country. Ciphers which are presented in the "Atlas of Identification by Dental Status" (Ye.Ya. Kostenko, B.V. Myhaylychenko, V.D. Mishalov, V.I. Bida). However, the main disadvantage and inconvenience of program is to write in database of dental status codes manually, which increase the possibility of error in determining the status of each individual tooth and all dental alveolar apparatus.

The aim of our research is the development and testing of the proposed methods for identification of dental status on the basis of computer analysis of iatrogenic interventions that displays on digital panoramic x-rays.

Materials and methods: It is based on the use of the effect of differences in the subject of observation from the surrounding background, which is known as optical contrast. Contrast is defined by the formula as ratio of brightness of the observed objects and the background to one of the brightness. Evaluation of the proposed method was tested in the experiment by 216 panoramic x-rays which have basic digital panoramic x-rays intervals repeated shots of one to five years. Among the 97 surveyed panoramic x-rays belonged to men, and 119 - women aged 18 to 65 years. The first group consisted of 74 people who were taken repeated shots in the first year. The structure of the second group study included 78 people, repeated images that are made in terms of one to three years, the third group consisted of 64 people, repeated shots which were made in three - five years.

Results and discussion: In the first group, the proposed method was identified 85.1% (63 persons) and 14.9% (11 people) had no seals, or they were replaced as a result of re-treatment. In the second

group was identified 79.5% (62 persons), of which visual assessment of dental status changes seen as a result of total orthopedic treatment removable prosthetics sintered 8.9% (7 people) and 11.6% (9 people) had sufficient characteristic radiographic signs of treatment. In the third group, which had the lowest rates have been identified 73.4% (47 persons), analysis of causes loss of efficiency due to the number of persons who had no dental treatment (age group 18-24 years) 5 persons (7.8%), and persons who conduct voluminous surgical, medical and orthopedic, therapeutic manipulations (12 people - 18.8%).

Conclusions: *The technique of computer analysis of identity iatrogenic interventions based contrast Trace Contour digital X-ray images have shown to be effective in people who have had enough of treated, restored and orthopedic restored teeth. Application of this technique is effective only in combination with other methods of dental identification.*

KEYWORDS: Forensic Odontology, Identification, Radiology.

JFOS. October 2013, Vol.31, Sup.No.1 Pag 52-53

8

ISSN :2219-6749