ARGUMENTATION OF DENTITION DEFECTS SYSTEMATIZATION WITH UNFIXED ALVEOLAR HEIGHT USE IN COMPLEX PROGRAM OF DENTAL IDENTIFICATION AND REGISTRATION OF DENTAL STATUS

Y. Kostenko, A. Kenyuk

Uzhgorod National University, Uzhgorod, Ukraine

Summary: Registration and identification process of dental status on the basis of quantitative objective criteria performed by retrospective analysis of the consequences of iatrogenic interventions and changes in the teeth-jaw system remains actual problem of forensic odontology and expert evaluation. Solving the above extensions could provide facts for forensics expert in matters of dental nature, and can be used to record changes of the teeth-jaw system during integrated peer evaluation of dental treatment. Therefore checking existing principles of dentition defects classification and the development of customized categories for systematization of dental status during its' changes is an open research and practical field for implementation and synthesis of analytical expertise of a dentist and a forensic expert.

Keywords: dentition defects, systematization, dental identification.

Introduction. Way of dental manipulations implementation goes through the introduction of a range of specific methods and techniques that depending on the technological level and allows accurately and efficiently identification for a range of micro- and macroscopic features of individual teeth, dentition, jaws, etc [5]. The latter serves as the basis of identification system for individual dental status. At the present time databases of computer identification by dental status (CAPMI, WINID, NCIC2000, NDIR, NamUs, VICTIMS, NAMPN, DOE, EDAN,, IDIS, ADIS, INTERPOL DVI, CPIC, NCMA) [2, 6, 12, 13] are not using any principles of categorization based on dynamic changes of dental status or its' static defects as aedentia or tooth-alveolar elongation. Also the disadvantages of the above mentioned systems and applications are an excessive number of codes, the need to unify software platforms, local adaptation, lack of individualization. So development of grouping algorithm for dentition defects will simplified the process of search sample formation complex analysis of panoramic X-ray photos and clinical review.

The ability to address the issue of identifying persons with a modified dental status depends on the degree of change due to disease, or physiological changes of the treatment, as well as possibilities of comparison required identification points and

fragments, which will determine the level of compliance with the efficiency of identification [11, 12]. According to Keiser-Nielsen for a positive result there is a need of dental identification according at least 12 similar points/fragments mapping which will be held under the criterion of "identity set" [7, 8, 9] (Fig.1.). Morphological and functional changes of the teeth-jaw system, resulting from partial and complete edentia require prosthetic treatment in order to restore the integrity of the dentition, and thus stabilize the occlusal relationships, miostatycal reflexes and joint balance. On other hand without preview categorization of real dental status any other it changes will formed greater amount of samples for further analyses during dynamic atrophy, dental implantation, or using of full dentition with surgical correction of tooth-alveolar elongation.

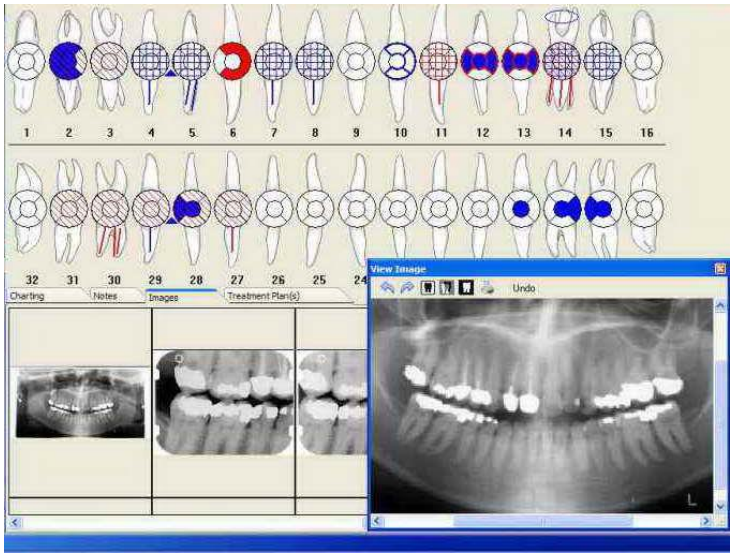

Figure 1. Digital registration of dental treatment results

Also any clinical assessment of the results of dental prosthetic documentation has drawbacks of the subjective grading, unreliable and inaccurate registration of descriptive characteristics in the medical official forms 043/o and 039/o, the filling of which is in accordance with the protocols of regulated samples of dental care to the population. But specifying objective grades of dental status using principles of categorization of dentition defects will decrease number of unexplained results of dental identification.

Objective: To test the adapted dentition defects systematization in patients with unfixed alveolar height in relation to complex program of dental identification and registration of dental status. Identify opportunities of abbreviation search sample by taking into account the characteristics of each categorical class of systematization proposed as a primary element of the expert evidence criteria formation. To develop an algorithm for expert evaluation of dental interventions in stage of grouping patients in a specific class of offered systematization.

Materials and methods. For primary grouping of patients with dentition defects, unfixed alveolar height and available tooth-alveolar elongation based on clinical observations and a retrospective analysis of epidemiological studies, clinical and radiological diagnostic methods, scanning

techniques of dental identification, proposed the following systematization:

* I class - Complete secondary edentia

* II class - Complete secondary edentia of one of the jaws with the presence of teeth on the opposite side:

- Subdivision 1 - Complete secondary edentia of maxilla with preserved frontal or lateral portion of the mandible:

A) with tooth-alveolar elongation;

B) without tooth-alveolar elongation;

- Subdivision 2 : Complete secondary edentia of mandible with preserved frontal or lateral portion of the maxilla:

A) with tooth-alveolar elongation;

B) without tooth-alveolar elongation.

* III class - The one stored teeth or groups of teeth on both jaws, which do not form antagonists pairs:

- Subdivision 1 - Without tooth-alveolar elongation:

A) in the frontal area

B) in the lateral area

C) in frontal and lateral areas

- Subdivision 2 - With tooth-alveolar elongation:

A) in the frontal area

B) in the lateral area

C) in frontal and lateral areas

Radiographic studies were conducted using "Planmeca Pro One". All patients panoramic X-ray photos were preclassified according to forensic systematization of dental status proposed by Kostenko-Mishalov to assess the possibility of further scanning analysis.

On the studied panoramic X-ray photos were determined constant and proportional anthropometric indexes considering topography between mental foramens and proposed geometric model building perpendicular tangents, ascending and descending lines. These methods provides identification of the dental status even in its intended full or pathological changes, and numerically evaluation of the alveolar atrophy level of the mandible in the frontal area with the ability to determine the absolute and relative errors of the results and intermediate calculations [1, 3, 4, 10].

In the presence of ceramic and metal-ceramic prosthetic dentures and single crowns registration of the soft tissue changes was performed using the method for determining changes in the gingival margin abutment teeth with non-removable prosthesis with carrying out measurements of the total height of the cutting edge to the bottom of the epithelial and connective tissue attachment in accordance with the formulas in dynamics of the immediate and long-term outcomes.

Dynamic registration of changes in the architectonics alveolar part of the mandible on digital panoramic X-rays carried out by graphical analysis of the proposed designation of base points A and B, which are located in the center of the visible projection of the mental foramen, the construction of the axes X and Y, the point O as the center between mental horizontally and related direct to approximal teeth surfaces constructed with base points A, B, O. For each point on the distal and mesial surfaces of teeth were mathematically calculated indexes as the ratios of the tangents to each point of contact surfaces with different initial coordinates of point O, A and B, describing the level of the alveolar bone of the mandible in a given time t1. Similar indices and calculation were registered at some time t2, and their numerical ratio conduct an objective assessment of atrophy of the alveolar part of the mandible due to pathological processes or results of a comprehensive dental treatment.

Definition of interalveolar height was performed using anthropometric methods of performance measurement M1 (horizontal distance between the pupil), M3 (the vertical distance between the eyebrows and the nose wings), M5 (distance between the corners of the mouth down the red rim lip) and M10 (twice the width of the eye), which can be considered the most accurate and informative among others.

Presence and degree of tooth-alveolar elongation, depth of incisal overlap, type of occlusion, condition of oral mucosa by Suplee and aesthetic features of the future prosthetic restoration were clinically conducted based on compensation atrophy of the alveolar part.

Statistical analysis of the data was carried out using the recommendations of the Mincer O., Voronenko Y. (2003) and standard statistical programs «Statistica 6.0» and «Microsoft Excel 2003 » (Microsoft Office 2003).

Results and discussion. Through systematic analysis was carried out the possibility of specification for Group V (Full dentition defects) of systematization by Kostenko-Mishalov by using categories of grouping dentitions defects with unfixed interalveolar heights and present tooth-alveolar elongation. The data should by submitted in electronic form of forensic odontological cards in graph "specific description", followed by the process of categorizing a computer algorithm:

- Classification according to the Kostenko-Mishalov
- Subdivision by classification of Kostenko-Mishalov for Group 5
- Class offered by systematization of dentition defects and adapted categorization
- Subdivision taking into account the presence of tooth elongation

Grouping dentition defects reduces the formation of primary sampling engine and repeated ortopantomograms for the purpose of identifying dental status or dynamic registration status using scanning techniques and graphical analysis of digital panoramic X-rays photo (Fig.2.).

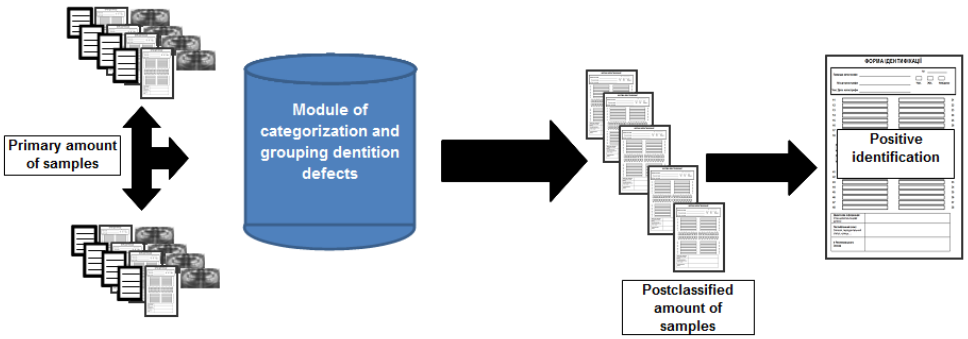

Figure 2. Principles of reducing research sample by using categorization a grouping dentition defects

The prospect for further research is the ability to design an algorithm adapted to provide orthopedic care including belonging to a particular class of systematization followed by evaluation of the effectiveness of its use. Using the proposed algorithm also facilitates the systematization comprehensive

peer review quality of the dental treatment and odontological identification by means of individualizing patient status and grouping of specific clinical situations with regard to the prevalence of tooth-jaw abnormalities.

Therefore, the prospects for further research using forensic dental status classifications are comprehensive methodological approach to peer review and record the condition of the teeth-jaw apparatus to provide for law enforcement authorities information of medico-biological nature.

Conclusions. With the developed dentition defects systematization in patients with unfixed interalveolar height ratio and tooth-alveolar elongation dental status may be documented on the basis of individual features that can be used in assessing the expert quality of dental care, as well as during the commission forensic medical examination in order to providing law enforcement authorities information of medical and biological nature. Categorization also call for increasing the level of control over the quality of care and results of treatment, and the addition of evidence of clinical examination for diagnosis, treatment and rehabilitation of patients with unfixed interalveolar height ratio. The data can be entered in the form of forensic odontocards as a specific description that justifies individualized identification and specification of specific elements of the dental status or the results of its changes. The above characteristics of the dental status condition and its objective interpretation of changes may be used as criteria for optimize expert evaluation of dental status changes as results of complex dental treatment of pathologies.

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EVALUATION OF THE QUALITY AND ACCESSIBILITY OF PROVISION MEDICAL CARE AT THE REGIONAL LEVEL

R. Y. Pohorilyak, A.P. Gulchiy

Uzhgorod National University, Department of Public Health, Uzhgorod, Ukraine
National Academy of Sciences of Ukraine, Chief Scientific Coordination Management NAMS of Ukraine, Kiev, Ukraine

Summary: The author, as an example of the Transcarpathian region, an assessment of the quality and availability of medical care at the regional level, using quality indicators. Discordant established trend indicators.

Keywords: indicators of quality of care, quality and accessibility of health care.

Introduction. Preservation and development of public health as a decisive factor in ensuring economic and social development is one of the most important social functions of the state. The implementation of this function occurs through the activities of the health sector, for which the evaluation of domestic and international practice, using indicators such as quality and accessibility of health care [3, 5].

However, despite all the declarations on the need to improve public health and taken to solve this problem numerous legal acts, the situation regarding the provision of medical care in the country has not significantly improved. Therefore, the study of the quality and availability of care, identifying the main cause of the decline is crucial to improve the functioning of the health and development strategies of reform.

Right of access to care as indicated in Amsterdam Declaration of the European Bureau of the World Health Organization, is one of the most important social rights.

International documents the availability of health care is seen as a multidimensional concept that includes a balance of many factors in the framework of

strong practical limitations due to the peculiarities of resources and capabilities. These factors include: personnel, finance, vehicles, and freedom of choice, social literacy, quality and distribution of inputs. The balance of these elements that maximize the quantity and quality of received population actually care, and determine the content and extent of its availability [2, 4].