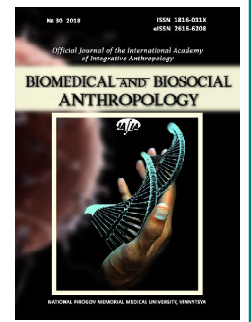




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Features of correlations of computer-tomographic sizes of premolars with cephalometric indices of practically healthy men from the Western and Eastern regions of Ukraine

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According to the data of modern scientific literature in order to achieve good functional and aesthetic indicators, prevention of the development of relapse in the process of orthodontic treatment should take into account the interdependence odometometric and cephalometric indicators. In this case, orthodontists need to make an amendment to the features of correlations characteristic of one or another ethnic group of the population. The purpose of this study was to establish the features of the connections of linear computational-tomographic sizes of premolars and their roots with cephalometric indices of practically healthy men of the Western and Eastern regions of Ukraine. On the basis of the medical center "VinintermedLTD", 71 healthy and healthy men aged from 19 to 35 years from the Western region ($n = 36$, residents from Volyn, Rivne, Lviv, Chernivtsi, Ternopil, Khmelnytsky, Transcarpathian and Ivano-Frankivsk regions) and the Eastern region ($n = 35$, residents from Kharkiv, Donetsk and Luhansk regions), a cone-ray computer tomography was performed using the Veraviewepocs-3D dental cavity beam (Morita, Japan). On cone-ray computer tomograms small angular teeth of the upper and lower jaws were measured: the length of the tooth; the length of palatal and cheek's roots of small angular teeth of the upper and lower jaw; height of tooth crown; vestibular-lingual dimensions of the crown and neck of the tooth; mesio-distal dimensions of the crown and neck of the tooth. Cephalometric studies were conducted taking into account the generally accepted recommendations and anatomical points. The statistical processing of the obtained results was carried out using the statistical software package "Statistica 6.1" using the nonparametric Spirman method. A number of anthropogenetic studies confirmed the division of Ukrainians into regional groups (East, West, North, South), divergence between them reaches a high level. Therefore, the difference between the correlations of odonto-kefalometric indices between regions with a larger taxonomic distance (east-west, north-south) should be expected. As a result of the conducted researches in practically healthy men the following regional features of connections of linear sizes of premolars with cephalometric indicators of a brain skull are established: the Western region is mainly direct reliable ($r = 0.34 - 0.45$) and unreliable average force ($r = 0.30 - 0.36$) connections (9.0% on the upper jaw, of which the relative majority are with the height of teeth and their crowns and the length of the roots and 7.6% on the lower jaw, of which the relative majority is mesio-distal and vestibular-lingual sizes); the Eastern region - mostly reverse reliable ($r = -0.34 - 0.45$) and unreliable mean strength ($r = -0.30 - 0.34$) connections (5.1% on the upper jaw and 5.4% on the lower jaw, in both cases the relative majority with the height of the teeth and their crowns and the length of the roots). The following regional peculiarities of connections were established with the indicators of the facial skull: the Western region - mostly direct ($r = 0.33 - 0.57$) and unreliable mean strength ($r = 0.30 - 0.42$) connections (9.9% on the upper jaw and 12.2% on the lower jaw, in both cases the relative majority of mesio-distal and horse-lingual dimensions); Eastern region - mostly direct ($r = 0.34 - 0.52$) and unreliable mean strength ($r = 0.30$

- 0.44) connections (7.4% on the upper jaw, of which the relative majority with height teeth and their crowns and the length of the roots and 9.2% on the lower jaw, of which the relative majority are mesio-distal and vestibular-lingual dimensions).

Keywords: regional features, premolars, cephalometry, correlations, practically healthy men.

Introduction

Modern restorative and reconstructive dentistry has accumulated a huge arsenal of techniques for the restoration of destroyed or lost teeth. However, the issue of morphology of the tooth and its laws modern dentistry devotes insufficient attention. Restoration is often performed not so much individually, but based on the aesthetic preferences of the doctor [10, 14]. Meanwhile, for over 100 years there is a science of odontology, which studies the variations in anatomy of human teeth, their relationship with sex, ethnic and racial affiliation. According to many anthropologists, among all branches of anthropology, odontology most accurately reflects ethnic relationships [13, 14, 20, 27].

The systematization of the results of cephalometric, odontometric, X-ray studies of the structural elements of the angular teeth and their roots allows them to study their individual anatomical variability and establish relationships with dimensional features of the craniofacial complex that can be used to substantiate the tactics of orthodontic treatment and individualized prosthetics [1, 3, 18, 19].

Taking into account the variability of the forms of the head, face and teeth is necessary for expanding the possibilities and indications for the orthodontic treatment of various age, ethnic and constitutional groups, especially in adulthood, when there are relatively small tissue abilities to change the shape and size, but at the same time put forward enough high requirements for the aesthetic-functional results of the treatment [10, 18, 19, 28].

In the literature, the results of studies on variations in the structure of the skull and teeth are widely presented, taking into account constitutional, racial and sexual characteristics [2, 4, 5, 9, 15, 24].

Works related to the study of computer-tomographic size of small angular teeth and their roots in relation to the type of skull in the period of constant bite is practically absent [5, 6, 9]. In this case, most attention is focused on the study of morphometric parameters of individual parts of the tooth-jaw system, and less attention is paid to the question of their correlations with the cephalometric indices [3, 6, 12].

The purpose of the study was to establish the features of the connections of linear computed tomographic sizes of premolars and their roots with cephalometric indices of practically healthy men of the Western and Eastern regions of Ukraine.

Materials and methods

On the basis of the medical center "Vinintermed LTD", 71 healthy and healthy men aged from 19 to 35 years from the Western region (n = 36, residents from Volyn, Rivne, Lviv, Chernivtsi, Ternopil, Khmelnytsky, Transcarpathian and

Ivano-Frankivsk regions) and the Eastern region (n = 35, residents from Kharkiv, Donetsk and Luhansk regions), a cone-ray computer tomography was performed using the Veraviewepocs-3D dental cavity beam (Morita, Japan). The volume of a three-dimensional image is a cylinder of 8x8 cm, a layer thickness of 0.2/0.125 mm, an irradiation dose of 0.011-0.048 mSv, a voltage and a current of 60-90kV/2-10mA. The study of a three-dimensional model of bone structures of the tooth-jaw complex was carried out in the i-Dixel One Volume Viewer (Ver. 1.5.0, J Morita Mfg. Cor.) [4].

Bioethics Committee of National Pirogov Memorial Medical University, Vinnytsya (protocol № 8, 10.09.2013) found that the studies fully met ethical and moral requirements in accordance with the order of the Ministry of Health of Ukraine №281 of 01.11.2000 and do not contradict the basic bioethical norms of the Helsinki Declaration, the Convention of the Council of Europe on Human Rights and biomedicine (1977).

On cone-ray computer tomograms small angular teeth of the upper and lower jaws were measured: the length of the tooth; the length of palatal and cheek's roots of small angular teeth of the upper and lower jaw; height of tooth crown; vestibular-lingual dimensions of the crown and neck of the tooth; mesio-distal dimensions of the crown and neck of the tooth [19].

The cephalometric study consisted of determining the parameters of the cerebral and facial sections of the head with the help of a large sliding compass with a scale in the real size of the Martin system and soft centimeter ribbon. Cephalometric studies were conducted taking into account the generally accepted recommendations and anatomical points [2, 6].

The form of the head was determined by the following formula [29]: the largest head width / the largest length of the head x 100. Up to a value of 75.9 men attributed to dolichocephals; 76.0-80.9 - to mesocephals; 81.0-85.4 - for brachycephals; 85.5 and more - to hyperbrachycephals. The following distribution is established: men dolichocephals - western 3, eastern 8; men mesocephals - western 4, eastern 8; brachycephals male - western 18, eastern 14; men hyperbrachycephals - western 11, eastern 5.

The value of the index sign (Garson morphological index) was obtained according to the corresponding formula [19]: the morphological face length / the largest face width x 100. In the meaning of the index to 78.9 men attributed groups with a very wide face; 79.0-83.9 - wide face; 84.0-87.9 - middle face; 88.0-92.9 - narrow face; 93.0 and more - very narrow face. The following distribution is established: men with a very wide face - western 1, eastern 4; men with wide

faces - western 2, eastern 5; men with middle face - western 2, eastern 5; men with a narrow face - western 16, eastern 17; men with a very narrow face - western 16, eastern 17.

The statistical processing of the obtained results was carried out using the statistical software package "Statistica 6.1" using the nonparametric Spirman method.

Results

In the analysis of the reliable and average strength of inaccurate correlations of the computer tomographic linear dimensions of premolars with cephalometric indices, craniotype and the type of the face of practically healthy men from the western and eastern administrative-territorial regions of Ukraine, the following multiple relationships are established:

in the Western region, direct, mostly reliable average forces ($r = 0.34 - 0.45$) of the largest head width with most mesio-distal sizes of premolars; direct, mostly reliable average strength ($r = 0.36 - 0.55$) connections of nasal depth, height of the upper face and distance between the nasion and the cut-off point with most mesio-distal sizes of the crown of the upper and lower right premolars; inverse reliable mean power ($r = -0.34 - -0.56$) of the distance between the nasion and the intersection point and the morphological face of the face with the vestibular-lingual dimensions of the neck of the upper and lower left second small angular teeth; direct, mostly reliable average strength ($r = 0.39 - 0.57$) connections of the external-width with vestibular-lingual sizes of the lower premolars; direct, mostly reliable average strength ($r = 0.33 - 0.36$) of the ties of the width of the base of the nose and the width of the mouth with the vestibular-lingual dimensions of the upper second premolars; direct, mostly reliable average force ($r = 0.33 - 0.49$), connections of the length of the body of the mandible to the right and to the left with the majority of vestibular-lingual dimensions of the lower small angular teeth; direct, mostly reliable mean power ($r = 0.34 - 0.47$) of the connections of the Garson morphological index and face type with height and most indicators of the length of the root of the lower first premolars;

in the Eastern region, the reverse, predominantly unreliable mean force ($r = -0,32 - -0,33$) connections of the largest head width with height and length of the root of the lower second small corner teeth; inverse and reliable mean strength ($r = -0.37 - -0.50$), connections of the forehead height, physiological face length, nasal depth, distance between the nasion and the cut-off point and the morphological length of the face with the mesio-distal size of the neck of the lower other small angles teeth direct, mostly reliable average forces ($r = 0.38 - 0.45$) connections of the external-width width with height and length of the root of the lower first premolars; direct reliable mean power ($r = 0.37 - 0.44$) of the links of the Garson morphological index and face type with crown height and mesio-distal crown size of the lower second premolars.

Discussion

Anthropologists and paleontologists in studying the morphometric features of small angular teeth have established

significant intergroup and intragroup racial and ethnic differences in terms of their absolute and relative dimensions, form, position, terms of eruption, etc. Moreover, doctors-orthodontists have long noticed that there are individual features of the structure of the maxillofacial system in people who live in different regions of a certain ethnic group [1, 7, 13, 23, 24].

To achieve good functional and aesthetic parameters, preventing the development of relapse in the process of orthodontic treatment, it is necessary to necessarily take into account the interdependence of odontometric and cephalometric indices. In doing so, it is necessary to make corrections to the features of correlations characteristic of one or another nationality and an ethnic group [16, 20, 21, 26].

Quantitative analysis of reliable and average strength of inaccurate correlations of computer-tomographic linear sizes of premolars with cephalometric indices, craniotype and face type of practically healthy men of the Western region of Ukraine revealed the following distribution of connections:

between the upper premolars and the indicators of the cerebral skull, 23 of the 256 possible (9.0%), of which, 3.1% of the direct mean average strength, 1.2% of direct mean uncertainty, 2.0% of the reverse reliable medium force and 2.7% of inverse unreliable mean forces, among which - with the first teeth, 11 connections of 128 possible (3.1% of direct mean strength, 0.8% of direct mean uncertainty mean, 2.3% of the reverse reliable medium force and 2.3% of inverse unreliable mean power); with second teeth, 12 connections of 128 possible (3.1% of direct, average, 1.6% direct mean uncertainty, 1.6% of the return average, and 3.1% of the inverse unreliable mean power); with the height of teeth and their crowns and the length of the roots of 13 connections of 128 possible (2.3% direct direct mean force, 0.8% direct false median power, 3.1% reverse reliable average force and 3.9% inverse false medium strength); with mesio-distal and vestibular-lingual dimensions of 10 connections of 128 possible (3.9% of direct, reliable average forces, 1.6% of direct mean unreliable force, 0.8% of reverse reliable mean power and 1.6% of inverse false positives medium strength);

between the lower premolars and the index of the brain skull 17 of the connections out of 224 possible (7.6%), of which, 4.9% of direct mean strength and 2.7% of direct mean uncertain forces, among which - with the first teeth 8 connections out of 112 possible (3.6% of direct and average strength and 3.6% of direct mean unreliable force); with second teeth, 9 connections of 112 possible (6.3% direct, average, and 1.8% direct, false median); with the height of the teeth and their crowns and the length of the roots, 4 out of 96 possible (3.1% direct mean force and 1.0% direct mean uncertainty); with mesio-distal and vestibular-lingual dimensions of 13 bonds of 128 possible (6.3% direct, reliable mean power and 3.9% direct mean uncertainty);

between the upper premolars and facial skull values 60 of the 608 possible connections (9.9%), of which 0.2% of the direct strong, 3.5% of the direct average strength, 3.0% of the direct false averages strength, 1.8% of the reciprocal of credible average strength and 1.5% of the inverse unreliable

mean force, among which - with the first teeth, 18 of the 304 possible connections (1.6% of direct mean strength, 3.3% of the direct unreliable mean forces, 0.7% of the returns of reliable average forces and 0.3% of inverse unreliable average forces); with second teeth, 42 out of 304 probable (0.3% direct strong, 5.3% direct mean power, 2.6% direct, unreliable average strength, 3.0% reverse reliable average power and 2.6% inverse false middle forces); with the height of the teeth and their crowns and the length of the roots 26 connections of 304 possible (0.3% direct strong, 2.0% direct mean force, 3.9% direct unreliable average strength, 1.0% reverse reliable average forces and 1.3% of inverse unreliable average forces); with mesio-distal and vestibular-lingual dimensions of 34 connections from 304 possible (4.9% of direct, reliable mean power, 2.0% of direct mean uncertainty mean, 2.6% of reverse reliable mean power and 1.6% of inverse false positives medium strength);

between the lower premolars and facial skull indicators, 65 of 532 possible connections (12.2%), of which 8.8% of direct mean strength, 1.9% of direct mean unreliable force, 0.9% of the reverse reliable medium force and 0.6% of inverse unreliable mean forces, among which - with the first teeth, 36 connections from 266 possible (10.2% of direct mean averaged force, 2.3% of direct mean unreliable force, 0.4% of the reverse reliable average strength and 0.8% of inverse unreliable mean power); with second teeth, 29 connections of 266 possible (7.5% of direct, average, 1.5% of direct mean uncertainty, 1.5% of the return average, and 0.4% of the inverse unreliable mean power); with the height of teeth and their crowns and the length of the roots 26 of the connections of 228 possible (8.3% of direct reliable average strength, 1.3% of direct mean uncertainty mean, 0.4% of the reverse reliable average strength and 1.3% of the reverse invalidity medium strength); with mesio-distal and vestibular-lingual dimensions of 39 connections from 304 possible (9.2% of direct, reliable average forces, 2.3% of direct mean uncertain forces and 1.3% of reciprocal true mean forces).

Quantitative analysis of reliable and average strength of incorrect correlations of computer-tomographic linear sizes of small corner teeth with cephalometric indices, craniotype and type of the face of practically healthy men of the Eastern region of Ukraine revealed the following distribution of relationships:

between the upper premolars and the indicators of the brain skull 13 connections of 256 possible (5.1%), of which 0.4% of the direct reliable strong, 0.4% of the direct reliable mean force, 1.2% of the direct unreliable mean strength, 1.6% of the reciprocal of credible average strength and 1.6% of the reverse invalid average forces, among which - with first teeth, 5 connections of 128 possible (0.8% of direct mean strength, 2.3% of reciprocal true mean forces and 0.8% of inverse false middle forces); with second teeth 8 connections of 128 possible (0.8% direct strong, 2.3% direct false median force, 0.8% reverse reliable average force and 2.3% reverse invalid average strength); with the height of teeth and their crowns and the length of the roots of 7

connections of 128 possible (0.8% direct strong, 2.3% direct mean unreliable force and 2.3% reverse invalid average force); with mesio-distal and vestibular-lingual dimensions of 6 connections of 128 possible (0.8% of direct, reliable average strength, 3.1% of reverse reliable mean power and 0.8% of inverse unreliable mean power);

between the lower premolars and the indicators of the brain skull 12 connections from 224 possible (5.4%), of which 0.4% of direct mean unreliable force, 1.8% of the reverse reliable average force and 3.1% of the reverse invalid medium force, among which - with first teeth, 3 connections from 112 possible (0.9% of direct mean uncertain forces and 1.8% of inverse unreliable average forces); with other teeth, 9 connections of 112 possible (3.6% of the reverse reliable average force and 4.5% of the inverse unreliable average strength); with the height of teeth and their crowns and the length of the roots of 8 connections out of 96 possible (4.2% of the reverse reliable mean force and 4.2% of the inverse unreliable mean power); with mesio-distal and vestibular-lingual dimensions, 4 out of 128 possible connections (0.8% of direct mean uncertain forces and 2.3% of inverse unreliable mean forces);

between the upper premolars and the index of the facial skull 45 connections of 608 possible (7.4%), of which, 0.7% direct strong, 2.5% direct mean strength, 2.8% direct, false median strength, 0.3% of the returns of the true average strength and 1.2% of the reverse invalid average forces, among which - with the first teeth, 13 connections of 304 possible (2.3% of direct mean strength, 0.7% of direct mean uncertainties forces, 0.3% of the returns of a reliable average force and 1.0% of the inverse false mean power); with second teeth, 32 out of 304 probable (1.3% direct strong, 2.6% direct mean force, 4.9% direct unreliable average strength, 0.3% reverse reliable average strength and 1.3% inverse false middle forces); with the height of the teeth and their crowns and the length of the roots 32 of the 304 possible connections (1.3% of the direct reliable strong, 2.6% of the direct reliable mean force, 4.3% of the direct mean uncertain forces, 0.3% of the reciprocal true mean force and 2.0% of inverse false mean power); with mesio-distal and vestibular-lingual dimensions of 13 bonds of 304 possible (2.3% of direct valid average forces, 1.3% of direct mean uncertain forces, 0.3% of reciprocal true mean power and 0.3% of reverse invalid mean medium strength);

between the lower premolars and facial skull values, 49 of the 532 possible (9.2%) connections, of which 3.0% of direct mean strength, 2.1% of direct mean uncertainty, 2.1% of the reverse true medium force and 2.1% of reverse invalid average forces, among which - with the first teeth, 20 connections from 266 possible (2.6% of direct, reliable average forces, 3.8% of direct unreliable average forces and 1.1% of reverse invalid values medium strength); with second teeth, 29 connections of 266 possible (3.4% of direct mean strength, 0.4% of direct mean uncertainty, 4.1% of the return average, and 3.0% of the inverse unreliable mean power); with the height of teeth and their crowns and

the length of the roots of 19 connections out of 228 possible (4.4% of direct valid average strength, 3.5% of direct mean uncertain mean power and 0.4% of inverse unreliable average strength); with mesio-distal and vestibular-lingual dimensions of 30 connections from 304 possible (2.0% direct, valid average strength, 1.0% direct mean uncertainty average, 3.6% reverse true mean force and 3.3% reverse invalid medium strength).

Anthropologists [8, 22, 25] revealed a peculiar set of odontometric and cephalometric features for a certain region of Ukraine. Subsequently, anthropogenetic studies confirmed the correctness of representations about the division of Ukrainians into regional groups (east, west, north, south), divergence between which reaches a high level. It is expected that significant differences in the correlations of odonto-cephalometric indicators will be recorded mainly between regions with a larger taxonomic distance (east-west, north-south).

Thus, in practically healthy men of the Western and Eastern regions there are qualitative and quantitative differences in the connections of linear computer-tomographic sizes of small angular teeth and their roots with cephalometric indices. A similar picture is observed in the studied Northern and Southern regions, described in the previous study [17].

The prospects for further research are the study of the relationship between odontometric indices of premolars and cephalometric indices among other administrative-territorial regions of Ukraine.

Conclusions

1. In practically healthy men, regional peculiarities of connections of linear dimensions of premolars with cephalometric indicators of the cerebral skull are established: the Western region is mainly direct reliable ($r = 0.34 - 0.45$) and unreliable mean force ($r = 0.30 - 0.36$) connections (9.0% on the upper jaw, of which the relative majority are the height of teeth and their crowns and the length of the roots and 7.6% on the lower jaw, of which the relative majority is with mesio-distal and vestibular-lingual dimensions); the Eastern region - mostly reverse reliable ($r = -0.34 - 0.45$) and unreliable mean strength ($r = -0.30 - 0.34$) connections (5.1% on the upper jaw and 5.4% on the lower jaw, in both cases the relative majority with the height of the teeth and their crowns and the length of the roots).

2. The regional peculiarities of connections of linear sizes of premolars with cephalometric indexes of the facial skull are established: the Western region is mainly direct reliable ($r = 0.33 - 0.57$) and unreliable average strength ($r = 0.30 - 0.42$) (9.9% on the upper jaw and 12.2% on the lower jaw, in both cases the relative majority of mesio-distal vestibular-lingual dimensions); Eastern region - mostly direct ($r = 0.34 - 0.52$) and unreliable mean strength ($r = 0.30 - 0.44$) connections (7.4% on the upper jaw, of which the relative majority with height teeth and their crowns and the length of the roots and 9.2% on the lower jaw, of which the relative majority are mesio-distal and vestibular-lingual sizes).

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ОСОБЛИВОСТІ КОРЕЛЯЦІЙ КОМП'ЮТЕРНО-ТОМОГРАФІЧНИХ РОЗМІРІВ МАЛИХ КУТНІХ ЗУБІВ ІЗ ЦЕФАЛОМЕТРИЧНИМИ ПОКАЗНИКАМИ ПРАКТИЧНО ЗДОРОВИХ ЧОЛОВІКІВ ЗАХІДНОГО І СХІДНОГО РЕГІОНІВ УКРАЇНИ

Згідно даних сучасної наукової літератури для досягнення хороших функціональних і естетичних показників, попередження розвитку рецидиву в процесі ортодонтичного лікування необхідно враховувати взаємозалежності одонтометричних і кефалометричних показників. При цьому, ортодонтам потрібно робити поправку на особливості кореляцій, характерних для тієї чи іншої етнічної групи населення. Метою даного дослідження було встановлення особливостей зв'язків лінійних комп'ютерно-томографічних розмірів малих кутніх зубів та їх коренів із цефалометричними показниками практично здорових чоловіків західного і східного регіонів України. На базі медичного центру "Вінітермед ЛТД" у 71 соматично здорових чоловіків віком від 19 до 35 років із західного регіону ($n = 36$, мешканці Волинської, Рівненської, Львівської, Чернівецької, Тернопільської, Хмельницької, Закарпатської та Івано-Франківської областей) та східного регіону ($n = 35$, мешканці Харківської, Донецької та Луганської областей) була проведена конусно-променева комп'ютерна томографія за допомогою дентального конусно-променевого томографа Veraviewerocs-3D (Morita, Японія). На конусно-променевих комп'ютерних томограмах малих кутніх зубів верхньої й нижньої щелепи проводили вимірювання: довжини зуба; довжини піднебінного і щічного коренів малих кутніх зубів верхньої й нижньої щелепи; висота коронки зуба; присінково-язикових розмірів коронки і шийки зуба; мезіо-дистальних розмірів коронки і шийки зуба. Цефалометричні дослідження проводили із врахуванням загальноприйнятих рекомендацій та анатомічних точок. Статистична обробка отриманих результатів була проведена з використанням статистичного програмного пакета "Statistica 6.1" з використанням непараметричного методу Спірмана. В ряді антропогенетичних досліджень підтверджено поділ українців на регіональні групи (схід, захід, північ, південь), дивергенція між якими сягає високого рівня. Тому очікуваними мають бути і відмінності кореляцій одонто-кефалометричних показників між регіонами з більшою таксономічною відстанню (схід-захід, північ-південь). В результаті проведених досліджень у практично здорових чоловіків встановлені наступні регіональні особливості зв'язків лінійних розмірів малих кутніх зубів із кефалометричними показниками мозкового черепу: західний регіон - переважно прямі достовірні ($r = 0,34 - 0,45$) і недостовірні середньої сили ($r = 0,30 - 0,36$) зв'язки (9,0 % на верхній щелепі, з яких відносна більшість із висотою зубів і їх коронок та довжиною коренів та 7,6 % на нижній щелепі, з яких відносна більшість із мезіо-дистальними і присінково-язиковими розмірами); східний регіон - переважно зворотні достовірні ($r = -0,34 - -0,45$) і недостовірні середньої сили ($r = -0,30 - -0,34$) зв'язки (5,1 % на верхній щелепі і 5,4 % на нижній щелепі, в обох випадках відносна більшість із висотою зубів і їх коронок та довжиною коренів). З показниками лицевого черепу встановлені наступні регіональні особливості зв'язків: західний регіон - переважно прямі достовірні ($r = 0,33 - 0,57$) і недостовірні середньої сили ($r = 0,30 - 0,42$) зв'язки (9,9 % на верхній щелепі і 12,2 % на нижній щелепі, в обох випадках відносна більшість із мезіо-дистальними і присінково-язиковими розмірами); східний регіон - переважно прямі достовірні ($r = 0,34 - 0,52$) і недостовірні середньої сили ($r = 0,30 - 0,44$) зв'язки (7,4 % на верхній щелепі, з яких відносна більшість із висотою зубів і їх коронок та довжиною коренів та 9,2 % на нижній щелепі, з яких відносна більшість із мезіо-дистальними і присінково-язиковими розмірами).

Ключові слова: регіональні особливості, малі кутні зуби, цефалометрія, кореляції, практично здорові чоловіки.

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ОСОБЕННОСТИ КОРРЕЛЯЦИЙ КОМПЬЮТЕРНО-ТОМОГРАФИЧЕСКИХ РАЗМЕРОВ МАЛЫХ КОРЕННЫХ ЗУБОВ С ЦЕФАЛОМЕТРИЧЕСКИМИ ПОКАЗАТЕЛЯМИ ПРАКТИЧЕСКИ ЗДОРОВЫХ МУЖЧИН ЗАПАДНОГО И ВОСТОЧНОГО РЕГИОНОВ УКРАИНЫ

Согласно данным современной научной литературы для достижения хороших функциональных и эстетических показателей, предупреждение рецидива в процессе ортодонтического лечения необходимо учитывать взаимозависимости одонтометрических и кефалометрических показателей. При этом, ортодонт нужно делать поправку на особенности корреляций, характерных для той или иной этнической группы населения. Целью данного исследования было установление особенностей связей линейных компьютерно-томографических размеров малых коренных зубов и их корней с цефалометрическими показателями практически здоровых мужчин западного и восточного регионов Украины. На базе медицинского центра "Вининтермед ЛТД" в 71 соматически здоровых мужчин в возрасте от 19 до 35 лет из западного региона (n = 36, жители Волынской, Ровенской, Львовской, Черновицкой, Тернопольской, Хмельницкой, Закарпатской и Ивано-Франковской областей) и восточного региона (n = 35, жители Харьковской, Донецкой и Луганской областей) была проведена конусно-лучевая компьютерная томография с помощью дентального конусно-лучевой томографа Veraviewerocs-3D (Morita, Япония). На конусно-лучевых компьютерных томограммах малых коренных зубов верхней и нижней челюстей проводили измерения: длины зуба; длины небного и щечной корней малых коренных зубов верхней и нижней челюсти; высота коронки зуба; преддверно-языковых размеров коронки и шейки зуба; мезио-дистальных размеров коронки и шейки зуба. Цефалометрические исследования проводили с учетом общепринятых рекомендаций и анатомических точек. Статистическая обработка полученных результатов проводилась с использованием статистического программного пакета "Statistica 6.1" с использованием непараметрического метода Спирмана. В ряде антропогенетических исследований подтверждено разделение Украинской на региональные группы (восток, запад, север, юг), дивергенция между которыми достигает высокого уровня. Поэтому ожидаемыми должны быть и различия корреляций одонто-кефалометрических показателей между регионами с большим таксономической расстоянием (восток-запад, север-юг). В результате проведенных исследований у практически здоровых мужчин установлены следующие региональные особенности связей линейных размеров малых коренных зубов с цефалометрическими показателями мозгового черепа: западный регион - преимущественно прямые достоверные ($r = 0,34 - 0,45$) и недостоверные средней силы ($r = 0,30 - 0,36$) связи (9,0% на верхней челюсти, из которых относительное большинство с высотой зубов и их коронок и длиной корней и 7,6% на нижней челюсти, из которых относительное большинство из мезио-дистальными и преддверно-языковыми размерами) восточный регион - преимущественно обратные достоверны ($r = -0,34 - -0,45$) и недостоверные средней силы ($r = -0,30 - -0,34$) связи (5,1% на верхней челюсти и 5,4% на нижней челюсти, в обоих случаях относительное большинство с высотой зубов и их коронок и длиной корней). С показателями лицевого черепа установлены следующие региональные особенности связей: западный регион - преимущественно прямые достоверные ($r = 0,33 - 0,57$) и недостоверные средней силы ($r = 0,30 - 0,42$) связи (9,9% на верхней челюсти и 12,2% на нижней челюсти, в обоих случаях относительное большинство с мезио-дистальными и преддверно-языковыми размерами); восточный регион - преимущественно прямые достоверные ($r = 0,34 - 0,52$) и недостоверные средней силы ($r = 0,30 - 0,44$) связи (7,4% на верхней челюсти, из которых относительное большинство с высотой зубов и их коронок и длиной корней и 9,2% на нижней челюсти, из которых относительная большинство из мезио-дистальными и преддверно-языковыми размерами).

Ключевые слова: региональные особенности, малые коренные зубы, цефалометрия, корреляции, практически здоровые мужчины.
