WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 5, Issue 11, November - 2024

THE PECULIARITY OF THE TOPOGRAPHIC ANALYSIS OF CANINES AS THE STARTING POINT FOR THE DIAGNOSIS OF MALOCCLUSION IN THE SAGITTAL PLANE

Turumova Marjona Bahodir qizi
Assistant of the Department Orthopedic Dentistry
Samarkand State Medical University, Samarkand, Uzbekistan

Abstract
The following has been described: topography of canines in orthodontic occlusion and abnormalities of the maxillary system in the sagittal plane, the relationship between canines and other structures of the facial skeleton, as well as the use of canines as a guideline in the diagnosis and planning of orthodontic treatment.

Keywords: orthodontic treatment, canines, bite, dental anomalies.

Introduction:
Anomalies in the position of individual teeth, especially in the anterior part of the upper jaw, account for the majority of dental anomalies – 77% [4]. The most common dental anomalies include the abnormal location of the canines of the upper jaw. It accounts for 30.5% of all obstruction anomalies [3]. In addition to an important aesthetic role, the canines of the upper jaw determine the formation of a stable functional bite. Unlike ideal static occlusion, functional occlusion is determined by the dynamic contact of the dentition during the movement of the lower jaw, which is the result of a complex interaction of the jaw, masticatory muscles, teeth and temporomandibular joints, regulated by the central and peripheral nervous system [1, 5]. Dental occlusion, which is the norm of the structure of the dentition, serves as a starting point to diagnose anomalies in the dental system. At the same time, the search for specific patterns in the location of individual teeth, especially canines, can be a starting point for a more accurate diagnosis of malocclusion and problems with their etiology.[2] In our opinion, the location of the canines is an important area of the structure of the dentition, a detailed study of which can provide additional information to clarify the diagnosis and etiology of proximal and distal occlusions. Despite the large number of studies devoted to the study of anomalies of the maxillofacial system, the problem of the location of canines and their influence on the occurrence of anomalies has not yet received sufficient scope, which determined the purpose of this study. The aim of the study was to study the topography of canines with normal and sagittal bite. Materials and methods of research To solve this

problem, 60 patients (35 women and 25 men) with malformations of the maxillofacial system in the sagittal plane were examined. Along with this, telegenograms and plaster models of the jaws of 30 people with corrective bite were studied. The age of the patients ranged from 16 to 30 years. The examination of the patient consisted of clinical studies of the diagnostic model of the jaw and X-ray cephalometric analysis of the TRG of the skull in a lateral projection. The measurement results were compared with remote radiographs of people with bites of both jaws and similar data obtained by studying jaw models. To study in detail the position of the canines and their role in bite formation, we used various methods of statistical processing of X-ray cephalometric and biometric measurements. The programs "MSExcel2000" and "Biostatistica8" were used. Descriptive statistics, methods of correlation analysis and search for classification rules using the construction of decision trees in the program "Deductor Studio Academic5" were used.2". In the study of the diagnostic model of the jaw, the dentition was measured in the sagittal and transverse planes. In this case, the measurement point Pon (1907) was used. The length of the previous segment is determined by the formula G. It The measurement was carried out using the Korkhaus method (1939). The width of the dentition in the dog's area was taken into account depending on the size of the septum of the 4 lower incisions, due to low variability (A.B. Slabkovskaya, 1995). The results of the study and its discussion When studying the biological parameters of the structure of the dentition in a group of patients with proximal and distal occlusion, a decrease in their size in cross-section and sagittal plane was found. With proximal obstruction, the greatest stenosis was observed in the area of the upper canines, 1st premolar and molars (11.34〜12.93%), which is one of the main signs in patients of this group. In patients with distal occlusion, maximum stenosis is observed in the area of the upper and lower first premolars and upper molars and to a lesser extent in the area of the lower molars. The narrowing of the area in dogs is more pronounced in the lower jaw (the difference was 2.24%). Compared to the dentition biting, the decrease in the length of the anterior segment of the dentition, the bite is determined approximately equally in both upper and lower dentitions, and in the distal bite, the length of the anterior segment of the lower dentition of the lower teeth is significantly reduced than in the upper dentition (8.11% and 7.27%, respectively). For a pairwise comparison of patient groups based on the values of the signs, the nonparametric Mann-Whitney criterion was chosen. 1) The distance between the cutting edge of the canines and the central point of the chewing surface of the first upper molars (cs-ms); 2) the angle between the canines (cs-acs/ci-aci); 3) the angle of inclination of the lower canines relative to the occlusal line. the surface of the lower dentition (ci-aci/ii-mi); 4) the angle of inclination of the canines (cs-aci/ii-

mi); 4) the angle of inclination of the canines (cs-aci/ii-mi); 4) the angle of inclination of the canines (cs-aci/ii-mi).5) The angle between the canines of the lower jaw and the longitudinal axis of the molars (ci-aci/mi-ami).; 6) The distance between the tip of the root of the canines and the molar of the lower jaw (aci-ami); 7) the distance between the tip of the root of the incisors and the molar of the lower jaw (aii-ami). 1) The angle of inclination of the lower canines to the base of the lower jaw (ci-aci/me-com); 2) the angle between the lower incisors and the longitudinal axis of the canines (ii-aii/ci-aci); 3) the angle between the dogs (cs-acs/ciaci); 4) The angle of inclination of the lower canines to the occlusal surface of the lower dentition (ci-aci/ii-mi); 5) The angle between the longitudinal the axis of the canines of the lower jaw and molars (ci-aci/mi-ami); 6) The distance between the canines of the lower jaw and the tips of the molar roots (aci-ami); 7) The distance between the tips of the incisor roots and the molars of the lower jaw (hi-hi). All 3 groups, namely orthodontic, proximal and distal occlusion, differ in pairs in the angle of inclination of the lower canines relative to the occlusal surface of the lower dentition (ci-aci/ii-mi). In order to assess changes in the relationship between head measurement parameters in corrective bite and sagittal malocclusion (proximal and distal bite), a correlation analysis was performed, which revealed many patterns. At the same time, the correlation was divided into positive and negative. In patients with corrective bite, a strong positive relationship was observed only between the angle of inclination of the canines (ci-aci/me-com) and incisors (ii-aii/me-com) relative to the base of the lower jaw. In patients with proximal occlusion, as the distance between the cutting edge of the canines and the central point of the chewing surface of the first upper molars (cs-ms) increases, the thickness of the alveolar protrusion of the mandible in the anterior (aii/me-com) and lateral areas increases. (ami/me-com) also increases, that is, the alveolar protrusion develops more strongly. With a closely related bite, with an increase in the angle of inclination of the lower canines relative to the base of the lower jaw (ci-aci/me-com), the angle of inclination of the lower incisors relative to the base of the lower jaw (ii-aii/me-com) and the angle of inclination of the angle of inclination of the lower molars relative to the base of the lower jaw (mi-ami/me-com) increases. With a more developed lateral alveolar process of the lower jaw (ami/me-com), the angle between the lower canines and molars increases (ci-aci/mi-ami), causing changes in the anterior part of the zygomatic part of the face (sna-me). With an increase in the length of the mandible branch (co-go) in patients with proximal occlusion, the angle between the canines of the mandible and the longitudinal axis of the molars (ci-aci/mi-ami) increases. With increasing length of the lower dentition (ii-mi), the distance between the tips of the lower incisors and molars (ii-ami) increases, as well as the distance between the

cutting edge of the canines and the central point of the chewing surface of the first upper molars (cs-ms) decreases. In the maxillary ratio, with an increase in the angle of inclination of the lower canines to the occlusal surface of the lower dentition (ci-aci/ii-mi), the angle of inclination of the lower incisors to the base of the lower jaw (ii-aii/me-com) decreases, and the angle of inclination of the lower molars to the base of the lower jaw (mi-ami/me-com) decreases. After the diagnosis of pericardial obstruction, it can be concluded that in order to identify the cause of the disease, attention should be paid to the listed common signs. In patients with distal occlusion, when the distance between the cutting edge of the canines and the central point of the chewing surface of the first upper molars (cs-ms) increases, the posterior part of the maxillary part of the face (snp-com) changes, which leads to a violation of the distal occlusion. the angle of inclination of the lower canines to the base of the lower jaw (ci-aci/me-com) increases with an increase in the angle of inclination of the lower incisors to the base of the lower jaw (ii-aii/me-com). In patients with distal occlusion, a decrease in the distance between the tips of the lower incisors and molars (aii-ami) leads to a decrease in the length of the upper (is-ms) and lower dentition (flattening of the anterior part of both the upper and lower jaw). With an increase in the angle of inclination of the lower canines to the occlusal surface of the lower (ii-mi) dentition (ci-aci/ii-mi), the length of the mandible branch (co-go) increases, and a strong positive correlation is observed between them. In the ratio of the distal jaw sections, the height of the middle zone of the face (fn/n-se) and the middle zone of the back of the face (snp-se) decreases with increasing angle of inclination of the lower canines relative to the base of the lower jaw (ci-aci/me-com). If the alveolar process of the upper jaw is less developed, the distance between the tips of the lower incisors and molars (aii-ami) increases in the lateral region (strong negative correlation). After diagnosis of distal obstruction, it can be concluded that in order to determine the cause of the disease, attention should be paid to the listed common signs. The data obtained in the course of the conducted research were used to find classification rules by building decision trees. As a result, 7 logical rules were obtained, which made it possible to establish, first of all, the angle of inclination of the canines of the lower jaw relative to the occlusal surface of the dentition of the lower jaw (ci-aci/ii-mi) < 73.5 degrees, as well as the distance between the incisors in the presence of the root of the lower jaw and the tip of the molar tooth (aii-ami) length more than 25.75 mm of the patient can be attributed to the owners of a near bite with a probability of 60%. Secondly, the angle of inclination of the canines of the lower jaw to the occlusal surface of the dentition of the lower jaw (ci-aci/ii-mi) is more than 73.5 degrees, and the angle between the longitudinal axis of the canines and the 1st molars of the lower jaw (ci-

aci/mi-ami) is more than 6.5 degrees. Thirdly, if the angle of inclination of the canines of the lower jaw to the occlusal surface of the dentition of the lower jaw (ci-aci/ii-mi) is <73.5 degrees, then the distance between the tips of the molars (aii-ami) is <25.75 mm from the center of the cut, the distance from the edge of the upper canines to the surface of the first upper molars (cs-ms) <22.5 mm, and the angle of inclination of the canines of the lower jaw relative to the occlusal surface of the dentition of the lower jaw (ci-aci/ii-mi) is <22.5 mm.The longitudinal axis of the canines of the lower jaw and its base (ciaci/me-com) is no more than 91 degrees, after which it can be assumed, that the patient has a distal occlusion. Fourth, if the angle of inclination (ci-aci/ii-mi) of the canines of the lower jaw relative to the occlusal surface of the dentition of the lower jaw is <73.5 degrees, then the distance between the incisors of the lower jaw and the tips of the roots of the molars (aii-ami) is <25.75 mm, and the distance between the points from the center of the cutting edge from the upper canines to the center of the chewing surface of the first upper molars (cs-ms) is: 26.25 mm, the patient has a distal bite with a probability of 89%. Fifth, if the angle of inclination of the canines of the lower jaw relative to the occlusal surface of the dentition of the lower jaw (ci-aci/ii-mi) is less than 73.5 degrees, then the distance between the root of the incisor of the lower jaw and the tip of the molar (aii-ami) is less than 25.75 mm, and the angle between the longitudinal axis of the canines of the upper and the lower jaw and the base of the lower jaw (ci-aci/me-com) is less than 91 degrees, the patient has an orthodontic bite. Sixth, if the angle of inclination of the canines of the lower jaw relative to the occlusal surface of the dentition of the lower jaw (ci-aci/ii-mi) is less than 73.5 degrees, then the distance between the root of the incisor of the lower jaw and the tip of the molar (aii-ami) is less than 25.75 mm and above 22.5 mm, the patient has a corrective bite. And seventh, if the patient has a corrective bite, if the angle of inclination of the canines of the lower jaw with respect to the occlusal surface of the dentition of the lower jaw is at least 73.5 degrees, and the angle between the longitudinal axis of the lower jaw and the molar is at least 6.5 degrees. Discussion Thus, our study shows that the etiology of dental anomalies in the sagittal plane, that is, proximal and distal occlusion, is based on a violation of the size and shape of the structure of the facial skeleton of the head, as well as their mutual adaptation. At the same time, the analysis of the position of the canines revealed a number of patterns characterizing the influence of the topography of the canines on the formation of these malocclusion anomalies. Biometric analysis of the measurement results of the diagnostic model of the jaw revealed a narrowing of the dentition in the canine region and changes in the apical base of the jaw with proximal and distal occlusion compared with that with jaw correction. According to the results of the correlation analysis, the

angle of inclination of the canines of the lower jaw to the occlusal surface of the dentition of the lower jaw, the angle between the longitudinal axis of the canines and the first molar of the lower jaw, the distance between the incisors of the lower jaw and the tip of the root of the lower jaw were determined. molar, the distance between the central point of the cutting edge of the upper canines and the center of the chewing surface of the first upper molars, the angle between the longitudinal axes of the canines, etc. X-ray cephalometric code of reliable data from the lower jaw to the base of the lower jaw. To have data according to which it is possible to classify the patient and determine that he belongs to corrective, pericardial or distal obstruction.

Conclusion:

Thus, our study showed that canines play an important role in the formation of a corrective bite and serve as a starting point for diagnosing malocclusion and making a corrective diagnosis

References

1. Marjona T. OPTIMIZATION AND IMPROVEMENT OF CARIES TREATMENT IN THE FIELD OF PERMANENT TEETH FISSURES IN CHILDREN //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – Т. 4. – №. 10. – С. 78-84.
2. Ruziyeva K. A., Burhonova Z. K. K. Complex Application Of Magnetic Laser Therapy And Propolis Tincture For The Prevention And Treatment Of Chronic Recurrent Aphthous Stomatitis //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – Т. 3. – №. 06. – С. 127-130.
3. Sevinch E., Zarafruz B. ETIOLOGICAL TREATMENT FEATURES INFLAMMATORY PERIODONTAL DISEASE //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – Т. 4. – №. 03. – С. 241-246.
4. Zarafruz K. S. B. THE ROLE OF ORAL CAVITY MICROORGANISMS IN THE DEVELOPMENT OF INFLAMMATION AND SOMATIC PATHOLOGY //International journal of advanced research in education, technology and management. – 2024. – Т. 3. – №. 8. – С. 192-202.
5. Yusufboy S., Qobilovna B. Z. STUDY THE EFFECT OF HYGIENIC CARE ON THE MICROBIAL LANDSCAPE OF THE ORAL CAVITY IN PATIENTS USING COMBINED SPLINTING STRUCTURES WITH MODERATE PERIODONTITIS //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – Т. 4. – №. 02. – С. 50-55.

6. Yusufboy S., Qobilovna B. Z. FEATURES OF THE STRUCTURE OF COPD IN ELDERLY PATIENTS //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 05. – C. 363-368.
7. Sevinch E., Qobilovna B. Z. A STUDY ON THE MORPHOFUNCTIONAL STATE OF ORAL ORGAN TISSUES DURING THE USE OF NON-REMOVABLE ORTHODONTIC STRUCTURES //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 03. – C. 247-253.
8. Shaximardonova E. S., Kobilovna B. Z. RED LICHEN PLANUS OF THE ORAL MUCOSA AND ITS CLINICAL ANALYSIS OF A PATIENT WITH, ASSOCIATED WITH THE EPSTEIN—BARR VIRUS //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 01. – C. 272-279.
9. Yusufboy S., Qobilovna B. Z. STUDY OF CHANGES IN THE ORAL CAVITY IN ENDOCRINE DISEASES //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 05. – C. 357-362.
10. Yusufboy S., Qobilovna B. Z. STUDY OF CHANGES IN THE ORAL CAVITY IN ENDOCRINE DISEASES //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 05. – C. 357-362.
11. Yusufboy S., Qobilovna B. Z. SMARTBURS II–A REVIEW OF THE ADVANTAGES OF SMART BOR //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 02. – C. 56-60.
12. Makhmudovna T. M. et al. THE COURSE OF MALFORMATION AND CORNEAL EROSION IN TUBERCULOSIS PATIENTS //Open Access Repository. – 2023. – T. 4. – №. 03. – C. 60-66.
13. Dilafruz K. ROOT CANAL PREPARATION AS A STAGE OF TOOTH RESTORATION //International journal of advanced research in education, technology and management. – 2024. – T. 3. – №. 9. – C. 100-107.
14. Dilafruz K. COMPREHENSIVE TREATMENT GENERALIZED PERIODONTITIS AND CLINICAL AND RADIOLOGICAL EVALUATION OF EFFECTIVENESS //International journal of advanced research in education, technology and management. – 2024. – T. 3. – №. 9. – C. 108-116.