

DENTOALVEOLARNE KARAKTERISTIKE MALOKLUZIJE II KLASSE 2. ODELENJA i NORMALNE OKLUZIJE – polne razlike –

DENTOALVEOLAR CHARACTERISTICS OF CLASS II DIVISION 2 MALOCCLUSION AND NORMAL OCCLUSION – gender differences –

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Kratak sadržaj

Cilj istraživanja je bio da se analizom studijskih modela definišu polne razlike dentoalveolarnih karakteristika pacijenata sa malokluzijom II klase 2. odeljenja i osoba sa normalnom okluzijom.

Ispitivanjem je obuhvaćeno 99 osoba, od toga 49 pacijenata sa malokluzijom II klase 2. odeljenja (29 ženskog i 20 muškog pola) i 50 osoba sa normalnom okluzijom (30 ženskog i 20 muškog pola). Uzeti su precizni otisci, urađeni studijski modeli na kojima su nonijusom, sa tačnošću od 0,01mm, mereni sledeći parametri: širina gornjeg i donjeg zubnog luka (interkanino, interpremolarno i intermolarno rastojanje), visina zubnog luka, širina, dubina i indeks nepca, širina apikalne baze gornje i donje vilice, kao i varijacije položaja maksilarnih inciziva kod malokluzija II klase 2. odeljenja.

Rezultati ispitivanja polnih razlika su pokazali da su gotovo svi ispitivani parametri veći kod osoba muškog pola. Kod malokluzije II klase 2. odeljenja najveća razlika postoji u predelu interpremolarne širine gornje vilice ($p < 0.05$), intermolarne širine donje vilice ($p < 0.05$), širine apikalne baze gornje i donje vilice ($p < 0.01$).

Kod osoba sa normalnom okluzijom širina gornje i donje vilice u svim ispitivanim promerima, širina i dubina nepca, kao i širina apikalne baze su značajno veći kod osoba muškog pola.

Ključne reči: malokluzija II klase 2. odeljenja, normalna okluzija, dentoalveolarne karakteristike

Abstract

The aim of the investigation was to define, by the analysis of study models, the gender differences of dentoalveolar characteristics of patients with malocclusion of II class of the 2nd division and with persons with normal occlusion.

The investigation included 99 persons, out of which 49 patients with malocclusion of II class of the 2nd division (29 of female and 20 of male sexes) and 50 persons with normal occlusion (30 of female and 20 of male sexes). Precise impressions were taken, study models were made on which the following parameters were measured by means of nonius, with the accuracy of 0.01mm: the width of the upper and lower dental arch (intercanine, interpremolar and intermolar reach), the height of the dental arch, the width, depth and index of the palate, the width of the apical base of the upper and lower jaws, as well as variations of the position of maxillary incisors with malocclusion of II class of the 2nd division.

The results of the investigation of gender differences showed that almost all examined parameters were greater with persons of male sex. With malocclusion of II class of the 2nd division, the biggest difference exists in the region of interpremolar width of the upper jaw ($p < 0.05$), intermolar width of the lower jaw ($p < 0.05$), the width of the apical base of the upper and lower jaws ($p < 0.01$).

With persons with normal occlusion the width of the upper and lower jaws in all examined diameters, the width and depth of the palate as well as the width of the apical base are significantly bigger with persons of male sex.

Key words: malocclusions of II class of the 2nd division, normal occlusion, dentoalveolar characteristics

Uvod

Malokluzija II klase 2. odeljenja, degbis, strm zagrižaj ili preklonni zagrižaj, predstavlja dento-alveolo-gnato-facijalnu nepravilnost.

Introduction

Malocclusion of II class of the 2nd division, degbis, steep bite or lapped bite, represents dento-alveolo-gnato-facial irregularity.

Osnovne karakteristike ove anomalije su distalni položaj donje vilice (najčešće za polovinu širine premolara), retko kad uzan gornji zubni luk čija je najupadljivija karakteristika nepravilan položaj gornjih frontalnih zuba, a pri čemu se najčešće sreće izrazita retruzija gornjih centralnih sekutića i protruzija lateralnih (mada su prisutne i druge kombinacije položaja zuba). Ispitivanja nekih autora¹, nalaze sedam vidova različitih položaja maksilarnih frontalnih zuba kod malokluzije II klase drugog odelenja od kojih je najučestaliji prvi ili klasičan vid (retruzija centralnih i protruzija lateralnih inciziva) 33,6 % a najređi četvrti vid (retruzija jednog centralnog i jednog lateralnog inciziva i protruzija istoimenih zuba suprotne strane), 2,70%. Jedno od čestih obeležja ove nepravilnosti je teskoba maksilarnog frontalnog segmenta. Klinička i metrijska ispitivanja ovog predela od strane nekih autora¹ pokazala su postojanje sledeća tri oblika u transversalnom pravcu: oralnu inklinaciju frontalnih zuba sa teskobnošću (55,4%), oralnu inklinaciju frontalnih zuba bez teskobnosti (28,1%) i oralnu inklinaciju sa dijastemama (16,3%).

Kod osoba sa malokluzijom II-2 izražena je Špeova krivulja donjeg zubnog niza, kao teskobnost mandibularnih frontalnih zuba, koja je najčešće koronarna, zbog njihove retroinklinacije.² Redovna pojava je dubok zagrižaj i to jačeg stepena i dobro razvijena apikalna baza, naročito u gornjoj vilici.^{3,4}

Neki autori sugerišu da pacijenti sa malokluzijom II-2 mogu imati kratki i uski maksilarni alveolarni anteriori procesus u odnosu na mandibularni procesus, što može biti važan morfološki parametar koji utiče na uspešnost okluzalne korekcije.⁵

Kod osoba sa ovom malokluzijom postoji osoben izgled lica koji karakteriše jače isturen nos, kao i jače isturena i gore povijena brada i naglašen sulcus mentolabialis, dok je funkcija cirkumoralne muskulature najčešće normalna.

Etiologija malokluzije II klase 2. odelenja je bila predmet brojnih istraživanja. Bilo je mišljenja da se radi o uticaju mekih tkiva i spoljašnjih faktora na formiranje ove nepravilnosti⁶⁻¹⁰, mada prevladava stav većine autora¹¹⁻¹⁶ da se radi o naslednom poremećaju. Naša ranija ispitivanja familija¹⁷ pokazala su prisustvo anomalije u četiri uzastopne generacije jedne familije što sugeriše autozomno dominantni način nasleđivanja.

The basic characteristics of this anomaly are distal position of the lower jaw (most often for a half of the width of premolars), very rarely a narrow upper dental arch whose most striking characteristic is irregular position of upper frontal teeth whereupon what is most often encountered is expressed retrusion of central incisors and protrusions of lateral ones (although there are present also other combinations of the position of the teeth). Examinations of some authors¹ find seven forms of various positions of maxillary frontal teeth with malocclusion of II class of the second division out of which the most frequent are the first or classical form (retrusion of central and protrusion of lateral incisors) 33.6% and the least frequent the fourth form (retrusion of one central and one lateral incisor and protrusion of similar teeth from the opposite side), 2.70%. One of frequent signs of this irregularity is uneasiness of maxillary frontal segment. Clinical and metric examinations of this region by some authors¹ showed the existence of the following three shapes in transversal direction: oral inclination of frontal teeth with uneasiness (55.4%), oral inclination of frontal teeth without uneasiness (28.1%) and oral inclination with diastemas (16.3%).

With persons with malocclusion of II-2 there is expressed the Spee curve of the lower dental string, as uneasiness of mandibular frontal teeth which are most often coronal due to their retroinclination². An ordinary phenomenon is deep bite and it is of a stronger degree and well developed apical base especially in the upper jaw.^{3,4}

Some authors suggest that patients with malocclusion of II-2 can have short and narrow maxillary alveolar anterior procesus in relation with mandibular procesus which may be an important morphological parameter which influences the success of occlusal correction⁵.

With persons with this malocclusion there is a specific view of the face which is characterised by a stronger protruded nose as well as a stronger protruded chin and bent upwards and a pointed sulcus mentolabialis while the function of circumoral build-physique is normal most often.

Etiology of malocclusion of II class of the 2nd division was subject of numerous examinations. There were opinions that what is concerned is the influence of soft tissues and external factors on forming these irregularities⁶⁻¹⁰ although the prevailing attitude of most of the authors¹¹⁻¹⁶ is that it is heritage disorder in question. Our former examinations of families¹⁷ showed the presence of the anomaly in four succeeding generations of one family which suggests autosomous dominant way of inheriting.

Cilj istraživanja

Cilj našeg istraživanja bio je da se definišu dentoalveolarne karakteristike malokluzije II klase 2. odelenja i normalne okluzije i utvrdi polni dimorfizam unutar grupa.

Materijal i metod

Istraživanjem (koje je obavljeno na Klinici za stomatologiju u Nišu) obuhvaćeno je 99 osoba sa stalnom denticijom. Da bi se prema napred postavljenim ciljevima istraživanje moglo adekvatno obaviti, svi ispitanici su podeljeni u dve grupe:

I grupa je obuhvatala osobe sa malokluzijom II klase 2. odelenja koji nisu bili ortodontski tretirani. Odabrano je ukupno 49 osoba i to 20 muškog i 29 ženskog pola.

II grupa je obuhvatala 50 osoba sa normalnom okluzijom od kojih je 20 bilo muškog i 30 ženskog pola.

Svi pacijenti su detaljno klinički obrađeni. Uzeti su im precizni otisci, na bazi kojih su dobijeni studijski modeli na kojima je urađena analiza.

Na studijskim modelima izvršena su sledeća merenja:

1. širina zubnog niza gornje i donje vilice je merena u predelu vrhova očnjaka, vrhova bukalnih kvržica prvih i drugih premolara kao i vrhova bukomezijalnih kvržica prvih stalnih molara pomoću nonijusa sa preciznošću od 0,01mm;

2. visina zubnog luka gornje i donje vilice je merena pomoću trodimenzionalnog šestara po Korkhausu kao rastojanje od labijalnih površina sekutića do linije koja spaja distalne površine šestogodišnjih molara;

3. obim zubnog luka je izračunat po formuli Millsa i Hamiltona a koja glasi $OL = 2\sqrt{y^2 + \frac{4x^2}{3}}$, gde je x – visina zubnog luka a y – 1/2 međumolarnog rastojanja;

4. širina apikalne baze merena je pomoću nonijusa sa tačnošću od 0,01mm. Na modelima gornje vilice širina apikalne baze je merena u predelu fossa-e caninae. Krajevi mernog instrumenta su postavljani u udubljenje koje se nalazi

Aim of investigation

The aim of our investigation was to define dentoalveolar characteristics of malocclusion of II class of the 2nd division and normal occlusion and to confirm gender dimorphism within the groups.

Material and method

By the investigation (which was performed at the Clinic of Stomatology in Nis) there were included 99 persons with permanent dentition. In order to have the investigation adequately performed according to the set objectives, all examinees are divided into two groups:

I group consisted of persons with malocclusion of II class of the 2nd division who were not treated orthodontically. There were selected totally 49 persons out of which 20 of male and 29 of female sexes.

II group consisted of 50 persons with normal occlusion out of which 20 were of the male and 30 of female sexes.

All patients were clinically processed in detail. Precise impressions were taken from them on whose base study models are obtained and analysis is done on them.

The following measurements were performed on the study models:

1. the width of the dental string of the upper and lower jaws is measured in the region of the tips of the canines, tips of buccal papillae of the first and second premolars as well as tips of buccomesial papillae of the first permanent molars by means of nonius with the accuracy of 0.01mm;

2. the height of the dental arch of the upper and lower jaws is measured by means of three-dimensional compasses according to Korkhouse as a distance from labial surfaces of the incisors to the line which connects the distal surface of six-year-old molars;

3. the circumference of the dental arch is calculated to formulae of Mills and Hamilton which is $OL = 2\sqrt{y^2 + \frac{4x^2}{3}}$, where x - is the height of the dental arch and y - 1/2 of intermolar distance;

4. the width of the apical base is measured by means of nonius with the accuracy of 0.01mm. On the models of the upper jaw, the width of the apical base is measured in the region of the fossa caninae. The ends of the measuring instrument are placed in the recess which is located between the

između vrhova korenova očnjaka i prvih premolara. Na modelima donje vilice merenje je izvršeno između vrhova korenova očnjaka i prvih premolara, 5mm od gingivalne ivice zuba;

5. širina i dubina nepca merene su pomoću trodimenzionalnog šestara a indeks nepca je izračunat po formuli: indeks nepca= dubina nepca/(širina zuba) zubnog luka x100.

Postoje tri kategorije nepca prema vrednostima indeksa:

Plitko x – 27,9

Srednje 28 – 39,9

Visoko 40 – x

Dobijeni rezultati su statistički obradjeni, razlike između grupa su testirane t-testom i prikazani tabelarno i grafički.

Rezultati istraživanja

Dobijeni rezultati analize modela malokluzije II klase 2. odeljenja i normalne okluzije pokazuju veće vrednosti svih ispitivanih parametara kod osoba muškog pola. Kod pojedinih ispitivanih parametara razlike u odnosu na ženski pol su na višem nivou značajnosti, a kod drugih nisu bile statistički značajne.

Malokluzija II/2

Širina zubnog luka gornje vilice (tabela 1). Kod osoba sa malokluzijom II klase 2. odeljenja širina maksilarnog zubnog niza je veća kod oso-

tips of the roots of the canines and the first premolars. On the models of the lower jaw, measurement is performed between the tips of the canines and the first premolars, 5mm away from the gingival edge of the teeth;

5. the width and depth of the palate were measured by means of threedimensional compasses and the index of the palate is calculated to formula: index of palate=depth of palate-"DW" of dental arch x100.

There are three categories of the palate as per the values of the index:

Shallow x-27.9

Mean 28-39.9

High 40-x

The obtained results are statistically processed, the differences between the groups were tested by t-test and displayed by table and graph.

Results of investigation

The obtained results of the analysis of malocclusion models of II class of the 2nd division and normal occlusion show higher values of all examined parameters with persons of male sex. With certain examined parameters the differences in relation to the female sex are at a higher level of significance and with the others they were not statistically significant.

Malocclusion II/2

The width of the dental arch of the upper jaw (Table 1). With persons with malocclusion of II class of the 2nd division the width of the maxillary dental string is bigger with persons of male sex in

Tabela 1. Polne razlike širine zubnog luka gornje vilice kod osoba sa malokluzijom II klase 2. odeljenja
Table 1. Gender differences of the width of the dental arch of the upper jaw with persons with malocclusion II class the 2nd division

zub/teeth	pol/sex	N	X	SD	Cv	min-max	t-test
C	m	20	33.45	2.80	8.37	27.30-40.35	2.07*
	f	29	31.70	3.00	9.47	23.30-36.90	
P ₁	m	20	40.30	2.42	6.01	39.75-44.80	2.63*
	f	29	38.40	2.54	6.62	33.00-43.50	
P ₂	m	20	45.50	2.73	6.00	40.35-49.70	1.60
	f	29	44.26	2.62	5.92	39.15-49.51	
M ₁	m	20	49.90	2.22	4.45	45.10-53.40	0.69
	f	29	49.33	3.22	6.54	44.00-57-30	

ba muškog pola u svim ispitivanim promerima. Statistički značajnu razliku nalazimo kod interkaninog rastojanja (33,45 mm kod muškog pola i 31,70 mm kod ženskog pola, t- test 2,07) i rastojanja između premolara (40,30 mm kod muškog i 38,40 mm kod ženskog pola, t- test 2,63).

Širina zubnog luka donje vilice (tabela 2). Takođe je i širina mandibularnog zubnog niza veća u svim promerima kod osoba muškog pola. Jedinu statistički značajnu razliku nalazimo kod intermolarnog rastojanja (47,85 mm kod muškog i 42,97 mm kod osoba ženskog pola, t- test 2,23).

all examined diameters. We find a statistically significant difference with intercanine reach (33.45 mm with male sex and 31.70 mm with female sex, t-test 2.07) and distance between premolars (40.30 mm with male and 38.40 with female sex, t-test 2.63).

The width of the dental arch of the lower jaw (Table 2) Also, the width of the mandibular dental string is bigger in all diameters with persons of male sex. We find the only statistically significant difference at intermolar distance (47.85 mm with male and 42.97 mm with persons of female sex, t-est 2.23).

Tabela 2. Polne razlike širine zubnog luka donje vilice kod osoba sa malokluzijom II klase 2. odeljenja
Table 2. Gender differences of the width of the dental arch of the lower jaw with persons with malocclusion II class 2nd division

zub/teeth	pol/sex	N	X	SD	Cv	min-max	t-test
C	m	20	25.24	2.45	9.71	21.50-30.75	0.73
	f	29	24.81	1.68	6.77	21.70-27.20	
P ₁	m	20	33.78	2.43	7.19	28.65-37.20	1.92
	f	29	32.06	3.48	10.84	17.20-36.35	
P ₂	m	20	39.00	2.96	7.58	31.90-44.20	1.50
	f	29	37.73	3.04	8.06	29.15-44.00	
M ₁	m	20	47.85	11.50	24.04	40.35-46.70	2.23*
	f	29	42.97	2.48	5.77	38.35-46.55	

Visina i obim zubnog luka gornje vilice (tabela 3). Prosečna vrednost visine zubnog luka gornje vilice kod osoba muškog pola sa malokluzijom II/2 klase iznosi 37,83 mm, kod osoba ženskog pola 35,88mm, što ukazuje na postojanje značajne polne razlike (t-test 3,07) u korist osoba muškog pola. Obim zubnog luka gornje vilice takođe pokazuje značajno veću prosečnu vrednost kod osoba muškog pola (100,62 mm) u odnosu na osobe ženskog pola (96,17 mm), (t- test 3,13).

The height and circumference of the dental arch of the upper jaw (Table 3). The mean value of the height of the dental arch of the upper jaw with persons of male sex with malocclusion of II/2 class amounts to 37.83 mm, with persons of female sex 35.88 mm, which points to the existence of a significant gender difference (t-test 3.07) in favour of persons of male sex. The circumference of the dental arch of the upper jaw also shows significantly bigger mean value with persons of male sex (100.62 mm) in relation with persons of female sex 96.17 mm), (t-test 3.13).

Tabela 3. Polne razlike obima zubnog luka gornje vilice kod osoba sa malokluzijom II klase 2. odeljenja
Table 3. Gender differences of the height and circumference of the dental arch of the upper jaw with persons with malocclusion II class the 2nd division

max	pol/sex	N	X	SD	Cv	min-max	t-test
VL	m	20	37.80	2.05	5.43	33.00-40.00	3.07**
	f	29	35.88	2.27	6.34	31.50-41.00	
OL	m	20	100.62	4.59	4.56	88.55-108.94	3.13**
	f	29	96.17	5.10	5.30	86.02-108.31	

Širina, dubina i indeks nepca (tabela 4). Prosečna vrednost širine nepca neznatno je veća kod osoba muškog pola (46,68 mm) u odnosu na osobe ženskog pola (45,28 mm), mada razlika ne pokazuje statističku značajnost (t-test 1,55). Prosečna vrednost dubine nepca je nešto veća kod osoba ženskog pola (16,90 mm) u odnosu na osobe muškog pola (16,65 mm). Ne postoji statistički značajna razlika između polova (t-test 0,38). Indeks nepca se takođe ne razlikuje značajno među polovima (t-test 1,09). Prosečna vrednost indeksa nepca kod osoba muškog pola iznosi 35,74 a kod osoba ženskog pola 37,66, što pripada kategoriji srednjeg nepca.

The width, depth and index of the palate (Table 4). The mean value of the width of the palate is slightly greater with person of male sex (46.68 mm) in relation with persons of female sex (45.28 mm), although the difference does not show statistical significance (t-test 1.55). The mean value of the depth of the palate is slightly greater with persons of female sex (16.90 mm) in relation with persons of male sex (16.65 mm). There is no statistically significant difference between sexes (t-test 0.38). The palate index does not either differ significantly between sexes (t-test 1.09). The mean value of the palate index with persons of male sex amounts to 35.74 and with persons of female sex 37.66 which belongs to the the category of the middle palate.

Tabela 4. Polne razlike širine, dubine i indeksa nepca kod osoba sa malokluzijom II klase 2. odeljenja
Table 4. Gender differences of the width, depth and index of the palate with persons with malocclusion II class the 2nd division

	pol/sex	N	X	SD	Cv	min-max	t-test
ŠN	m	20	46.68	2.38	5.09	42.00-51.00	1.55
	f	29	45.28	3.52	7.77	37.50-53.00	
DN	m	20	16.65	2.86	17.19	12.00-23.50	0.38
	f	29	16.90	1.81	10.71	13.00-22.00	
IN	m	20	35.74	6.35	17.78	25.00-50.00	1.09
	f	29	37.66	5.85	15.53	27.66-55.00	

Distribucija pojedinih tipova nepca na osnovu indeksa nepca kod osoba sa malokluzijom II klase 2 odeljenja je sledeća: kod oba pola je najzastupljenije srednje nepce (kod muškog pola 70%, kod ženskog pola 58,62%). Visoko nepce je prisutno u većem procentu kod osoba ženskog pola (37,93%) u odnosu na muški pol (25%). Najređe je zastupljeno plitko nepce kod oba pola (5% kod muškog i 3,45% kod ženskog pola).

Širina apikalne baze gornje vilice (tabela 5). Prosečna vrednost širine apikalne baze gornje vilice kod osoba muškog pola sa malokluzijom II/2 iznosi 41,77mm, kod osoba ženskog pola 39,23mm. Vrednost t-testa od 3,93 ukazuje na

The distribution of certain types of the palate based on the palate index with persons with malocclusion of II class of the 2nd division is as follows: with both sexes the most represented is the middle palate (with male sex 70%, with female sex 58.62%). The high palate is present in a greater percentage with persons of female sex (37.93%) in relation with male sex (25%). The least frequently is represented the shallow palate with both sexes (5% with male and 3.45% with female sex).

The width of the apical base of the upper jaw (Table 5). The mean value of the width of the apical base of the upper jaw with persons of male sex with malocclusion II/2 amounts to 41.77mm, with persons of female sex 39.23mm. The value of t-test of 3.93

Tabela 5. Polne razlike širine apikalne baze gornje i donje vilice kod osoba sa malokluzijom II klase 2. odeljenja
Table 5. Gender differences of the width of the apical base of the upper and lower jaws with persons with malocclusion II class the 2nd division

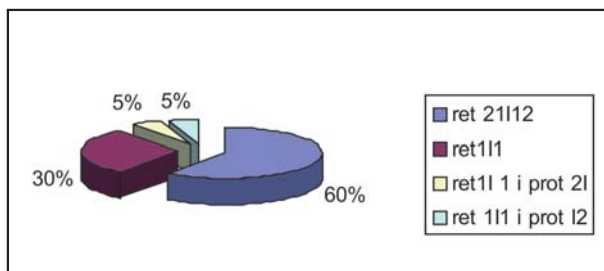
	pol/sex	N	X	SD	Cv	min-max	t-test
ABmax	m	20	41.77	2.28	5.45	35.05-45.15	3.93**
	f	29	39.23	2.19	5.59	33.50-42.05	
ABmand	m	20	34.67	1.47	4.23	32.10-37.30	3.57**
	f	29	33.00	1.70	5.16	30.00-35.45	

postojanje statistički značajnih polnih razlika širine bazalnog dela gornje vilice u korist osoba muškog pola.

Širina apikalne baze donje vilice (tabela 5). Širina bazalnog dela donje vilice takođe je značajno veća kod osoba muškog pola (t-test 3,57). Prosečna vrednost širine apikalne baze donje vilice kod osoba muškog pola iznosi 34,67 mm, a kod osoba ženskog pola 33,00 mm.

Varijacije položaja maksilarnih frontalnih zuba kod osoba muškog pola (dijagram 1) pokazuju da je u najvećem procentu zastupljena retruzija svih maksilarnih sekutića (60%). Retruzija oba centralna sekutića uz protruziju lateralnih prisutna je u 30 % dok je retruzija oba centralna i protruzija jednog od lateralnih sekutića zastupljena u 10%.

Varijacije položaja maksilarnih frontalnih zuba kod osoba ženskog pola (dijagram 2) pokazuju najčešću zastupljenost retruzije centralnih i protruzije lateralnih sekutića 72%. Retruzija sva četiri sekutića zastupljena je u 14 % dok je retruzija centralnih i protruzija jednog od lateralnih sekutića prisutna u 13,8 %.



Dijagram 1. Varijacije položaja inciziva kod osoba muškog pola sa malokluzijom II klase 2. odeljenja

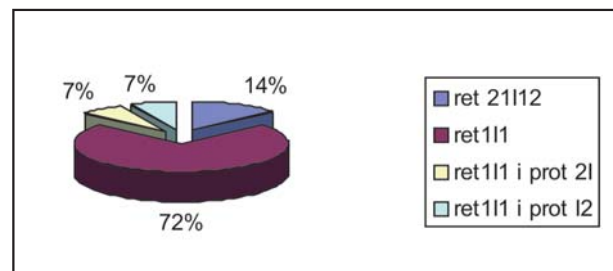
Diagram 1. Variations of the position of incisors with persons of male sex with malocclusion II class the 2nd division

points to the existence of statistically significant gender differences of the width of the basal part of the upper jaw in favour of persons of male sex.

The width of the apical base of the lower jaw (Table 5). The width of the basal part of the lower jaw is also significantly bigger with persons of male sex (t-test 3.57). The mean value of the width of the apical base of the lower jaw with persons of male sex amounts to 34.67mm and with persons of female sex 33.00 mm.

Variations of the position of maxillary frontal teeth with persons of male sex (diagram 1) show that, to the biggest extent, there is represented retrusion of all maxillary incisors (60%). The retrusion of both central incisors with protrusion of lateral ones is present in 30% while retrusion of both central and protrusion of one of the lateral incisors is represented in 10%.

Variations of the position of maxillary frontal teeth with persons of female sex (diagram 2) show the most frequent representation of retrusion of central and protrusion of lateral incisors 72%. Retrusion of all four incisors is represented in 14% while retrusion of central and protrusion of one of laterl incisors is present in 13.8%.



Dijagram 2. Varijacije položaja inciziva kod osoba ženskog pola sa malokluzijom II klase 2. odeljenja

Diagram 2. Variations of the position of incisors with persons of female sex with malocclusion II class the 2nd division

Normalna okluzija

Kod osoba sa normalnom okluzijom prisutne su veće polne razlike u svim analiziranim parametrima u odnosu na polne razlike koje postoje kod osoba sa malokluzijom II klase 2. odeljenja.

Širina zubnog luka gornje vilice (tabela 6). Širina maksilarnog zubnog niza kod osoba sa normalnom okluzijom, značajno je veća kod osoba muškog pola u svim ispitivanim promerima. Najveću razliku nalazimo između očnjaka i prvih premolara (t-test 5,01 i 5,08) pri nivou značajnosti $p < 0,001$. Rastojanje između drugih premolara i prvih stalnih molara je

Normal occlusion

With persons with normal occlusion there are present bigger gender differences in all analysed parameters in relation with gender differences that exist with persons with malocclusion of II class of the 2nd division.

The width of the dental arch of the upper jaw (Table 6). The width of the maxillary dental string with persons with normal occlusion is significantly bigger with persons of male sex in all examined diameters. We find the biggest difference between canines and the first premolars (t-test 5.01 and 5.08) at the significance level $p < 0.001$. The distance between the other pre-

takođe značajno veće kod osoba muškog pola (t-test 3,48 i 3,99) mada je razlika na nižem nivou značajnosti ($p < 0,01$).

Širina zubnog luka donje vilice (tabela 7). Takođe je i širina donjeg zubnog niza u svim promerima veća kod osoba muškog pola. Kao i u gornjem zubnom luku razlika je najveća u predelu očnjaka i prvih premolara (t-test 5,19 i

molars and the first permanent molars is also significantly bigger with persons of male sex (t-test 3.48 and 3.99) although the difference is at a lower level of significance ($p < 0.01$).

The width of the dental arch of the lower jaw (Table 7). Also, the width of the lower dental string in all diameters is bigger with persons of the male sex. As in the upper dental arch, the difference is biggest in the region of the canines and the

Tabela 6. Polne razlike širine zubnog luka gornje vilice kod osoba sa normalnom okluzijom
Table 6. Gender differences of the width of the dental arch of the upper jaw with persons with normal occlusion

zub/teeth	pol/sex	N	X	SD	Cv	min-max	t-test
C	m	20	34.95	1.75	5.01	32.40-39.00	5.01***
	f	30	32.45	1.72	5.30	27.60-36.20	
P ₁	m	20	42.90	2.02	4.71	39.40-46.50	5.08***
	f	30	39.99	1.96	4.89	33.80-42.80	
P ₂	m	20	47.70	2.99	6.26	39.80-52.30	3.48**
	f	30	45.33	1.80	3.98	41.50-50.30	
M ₁	m	20	53.32	2.58	4.84	45.60-56.70	3.99**
	f	30	50.70	2.05	4.04	46.50-56.00	

5,85; tab.7), pri nivou značajnosti od $p < 0,001$, dok je nešto manja, ali još uvek visoko statistički značajna kod rastojanja u predelu premolara (t-test 3,82; $p < 0,001$) i šestogodišnjih molara (t-test 3,72; $p < 0,01$).

first premolars (t-test 5.19 and 5.85; table 7), with the significance level of $p < 0.001$, while it is slightly smaller but still highly statistically significant with the difference in the region of premolars (t-test 3.82; $p < 0.001$) and six-year-old molars (t-test 3.72; $p < 0.01$).

Tabela 7. Polne razlike širine zubnog luka donje vilice kod osoba sa normalnom okluzijom
Table 7. Gender differences of the width of the dental arch of the lower jaw with persons with normal occlusion

zub/teeth	pol/sex	N	X	SD	Cv	min-max	t-test
C	m	20	26.60	1.20	4.51	23.80-29.10	5.19*
	f	30	24.70	1.10	5.28	22.80-28.10	
P ₁	m	20	35.03	1.64	4.69	31.30-37-90	5.85***
	f	30	32.33	1.57	4.87	30.20-36.00	
P ₂	m	20	40.44	1.89	4.68	36.60-44.20	3.82**
	f	30	38.23	2.07	5.41	35.20-43.20	
M ₁	m	20	45.94	2.03	4.41	41.20-49.20	3.72**
	f	30	43.70	2.12	4.84	40.20-48.70	

Visina i obim zubnog luka gornje vilice (tabela 8). Prosečna vrednost visine zubnog luka gornje vilice kod osoba muškog pola iznosi 36,45 mm, kod osoba ženskog pola 35,00 mm. Vrednost t-testa 3,08 ukazuje na postojanje visoko značajnih polnih razlika. Obim maksimalnog zubnog luka kod osoba muškog pola sa

The height and circumference of the dental arch (Table 8). The mean value of the height of the dental arch of the upper jaw with persons of the male sex amounts to 36.45 mm, with persons of the female sex 35.00 mm. The value of the t-test 3.08 points to the existence of highly significant gender differences. The maxillary dental arch with persons of the male sex with normal occlusion amounts to

Tabela 8. Polne razlike visine i obima zubnog luka gornje vilice kod osoba sa normalnom okluzijom
 Table 8. Gender differences of the height and circumference of the dental arch of the upper jaw with persons, with normal occlusion

	pol/sex	N	X	SD	Cv	min-max	t-test
VL	m	20	36.45	1.77	4.85	32.50-39.50	3.08**
	f	30	35.00	1.53	4.38	32.00-38.00	
OL	m	20	97.36	3.99	4.10	90.18-104.03	3.79**
	f	30	93.57	3.09	3.31	87.84-100.03	

normalnom okluzijom iznosi 97,36 mm, kod osoba ženskog pola 93,57 mm. Postoji izražen polni dimorfizam (t-test 3,79) u korist osoba muškog pola.

Širina, dubina i indeks nepca (tabela 9). Širina nepca kod osoba muškog pola sa normalnom okluzijom iznosi 48,85 mm, kod osoba ženskog pola 47,08. Postoji značajna polna razlika (t-test 3,22) širine nepca u korist osoba muškog pola. Dubina nepca pokazuje veće vrednosti kod osoba muškog pola, mada je razlika na niskom nivou značajnosti (t-test 2,07 $p < 0,05$). Indeks nepca se ne razlikuje značajno između polova kod osoba sa normalnom okluzijom. Vrednosti indeksa nepca ukazuju da je najzastupljenija srednja visina nepca s tim što je kod osoba muškog pola u manjem procentu prisutno i visoko nepce. Polne razlike visine nepca nisu bile statistički značajne (tabela 9).

97.36 mm, with persons of the female sex 93.57 mm. There is outstanding gender dimorphism (t-test 3.79) in favour of persons of the male sex.

The width, depth and index of the palate (Table 9). The width of the palate with persons of the male sex with normal occlusion amounts to 48.85mm, with persons of the female sex 47.08. There is significant gender difference (t-test 3.22) of the width of the palate in favour of persons of male sex. The depth of the palate shows bigger values with persons of male sex although the difference is at a low level of significance (t-test 2.07 $p < 0.05$). The index of the palate does not significantly differ between the sexes with persons with normal occlusion. The values of the index of the palate point to the most frequently represented mean height of the palate provided with persons of male sex the high palate is also present in a smaller percentage. Gender differences of the height of the palate were not statistically significant (Table 9).

Tabela 9. Polne razlike širine, dubine i indeksa nepca kod osoba sa normalnom okluzijom
 Table 9. Gender differences of the width, depth and index of the palate with persons with malocclusion, normal occlusion

	pol/sex	N	X	SD	Cv	min-max	t-test
ŠN	m	20	48.85	2.37	4.85	44.00-53.00	3.22**
	f	30	47.08	1.51	3.21	44.00-52.00	
DN	m	20	17.00	1.75	10.27	15.00-20.00	2.07*
	f	30	16.18	1.04	6.41	13.00-18.00	
IN	m	20	34.83	3.46	9.94	29.41-42.50	0.54
	f	30	34.39	2.28	6.62	28.26-38.71	

Širina apikalne baze gornje vilice (tabela 10). Prosečna vrednost širine apikalne baze gornje vilice kod osoba muškog pola sa normalnom okluzijom iznosi 41,06mm, kod osoba ženskog pola 37,50mm. Vrednost t-testa od 6,72 ukazuje na postojanje visoko značajnih polnih razlika ($p < 0,001$) širine bazalnog dela gornje vilice u korist osoba muškog pola.

Širina apikalne baze donje vilice (tabela 10). Prosečna vrednost širine apikalnog dela donje

The width of the apical base of the upper jaw (Table 10) The mean value of the width of the apical base of the upper jaw with persons of male sex with normal occlusion amounts to 41.06 mm, with persons of female sex 37.50 mm. The value of t-test of 6.72 points to the existence of highly significant gender differences ($p < 0.001$) of the width of the basal part of the upper jaw in favour of persons of male sex.

The width of the apical base of the lower jaw (Table 10). The mean value of the width of the

vilice kod osoba muškog pola sa normalnom okluzijom iznosi 36,10 mm, kod osoba ženskog pola 33,04 mm, što ukazuje na značajan polni dimorfizam (t-test 7,51) u korist osoba muškog pola.

apical part of the lower jaw with persons of male sex with normal occlusion amounts to 36.10 mm, with persons of female sex 33.04 mm, which points to a significant gender dimorphism (t-test 7.51) in favour of persons of male sex.

Tabela 10 . Polne razlike širine apikalne baze gornje i donje vilice kod osoba sa normalnom okluzijom
Table 10. Gender differences of the width of the apical base of the upper and lower jaws with persons with normal occlusion

	pol/sex	N	X	SD	Cv	min-max	t-test
ABmax	m	20	41.77	2.28	5.45	35.05-45.15	3.93**
	f	29	39.23	2.19	5.59	33.50-42.05	
ABmand	m	20	34.67	1.47	4.23	32.10-37.30	3.57**
	f	29	33.00	1.70	5.16	30.00-35.45	

Diskusija

Istraživanja brojnih autora pokazuju postojanje polnih razlika veličine zuba kao i dimenzija zubnih lukova kod normalne okluzije i kod osoba sa malokluzijama.

Kod osoba sa malokluzijom II klase 2. odeljenja širina maksilarnog zubnog niza je veća kod osoba muškog pola u svim ispitivanim promerima, s tim da statistički značajna razlika postoji kod interkaninog rastojanja i rastojanja između prvih premolara ($p < 0,05$).

Takođe je i širina mandibularnog zubnog niza veća u svim promerima kod osoba muškog pola s tim da jedinu statistički značajnu razliku nalazimo kod intermolarnog rastojanja, na niskom nivou značajnosti ($p < 0,05$).

Nepostojanje polnih razlika u širini mandibularnog zubnog niza u interkaninom predelu govori o tome da je jedna od tipičnih karakteristika malokluzije II klase 2. odeljenja, teskoba donjih inciziva i dubok zagrižaj, verovatno, delimično posledica i uskosti ovog predela i jednako je izražena kod oba pola. Transverzalna nerazvijenost interkaninog segmenta mandibule, može se korigovati povećanjem te dimenzije (vestibularnom inklinacijom zuba) čime se rešava dubok zagrižaj i obično smanjuje potreba za ekstrakcijom zuba i kasnijom fiksnom retencijom.²

Prosečna vrednost visine zubnog luka gornje vilice kod osoba muškog pola sa malokluzijom II/2 klase veća je nego kod osoba

Discussion

Investigations of numerous authors show the existence of gender differences of the size of the teeth as well as dimensions of dental arches of normal occlusion and with persons with malocclusions.

With persons with malocclusion of II class of the 2nd division, the width of the maxillary dental string is bigger with persons of male sex in all examined diameters provided that statistically significant difference exists with intercanine distance and distance between the first premolars ($p < 0.05$).

Also, the width of mandibular dental string is bigger in all diameters with persons of male sex provided we find the only statistically significant difference with intermolar distance at a low level of significance ($p < 0.05$).

Non-existence of gender differences in the width of mandibular dental string in intercanine region explains that one of typical characteristics of malocclusion of II class of the 2nd division is that uneasiness of lower incisors and deep bite is probably partly consequence also of the narrowness of this region and is equally expressed with both sexes. Transversal undevelopment of intercanine segment of the mandible can be corrected by increasing those dimensions (by vestibular inclination of the teeth) by which deep bite is solved and the need is usually reduced to extract teeth and later have fixed retention.²

The mean value of the height of the dental arch of the upper jaw with persons of male sex with malocclusion II/2 class is bigger than with persons of female sex which points to the exist-

ženskog pola, što ukazuje na postojanje značajne polne razlike ($p < 0.05$). Obim zubnog luka gornje vilice također pokazuje značajno veću prosečnu vrednost kod osoba muškog pola u odnosu na osobe ženskog pola ($p < 0.01$)

Prosečna vrednost širine nepca je neznatno veća kod osoba muškog pola bez statističke značajnosti dok je dubina nepca nešto veća kod osoba ženskog pola također bez statističke značajnosti. Prosečna vrednost indeksa nepca također ne pokazuje statističku značajnost mada je nešto veća kod osoba muškog pola. Prema prosečnim vrednostima ispitanici oba pola sa malokluzijom II/2 imaju srednje nepce.

Distribucija pojedinih tipova nepca na osnovu indeksa nepca kod osoba sa malokluzijom II klase 2 odelenja ukazuje da je kod oba pola najzastupljenije srednje nepce. Visoko nepce je prisutno u većem procentu kod osoba ženskog pola u odnosu na muški pol a najređe je zastupljeno plitko nepce kod oba pola.

Apikalna baza, kao deo tela vilice iz koga se razvija alveolarni nastavak značajno je veća kod osoba muškog pola, kako kod normalne okluzije tako kod malokluzije II klase 2. odelenja (na nivou signifikantnosti $p < 0.01$) i u gornjoj i u donjoj vilici. Ova činjenica ukazuje da je prognoza terapije mnogo bolja kod osoba muškog pola kao i da je verovatnoća pojave recidiva posle uspešno sprovedene terapije smanjena kod osoba sa malokluzijom II klase 2. odelenja upravo zbog dobro razvijene apikalne baze, naročito gornje vilice. Veličina apikalne baze predstavlja značajan faktor u predviđanju mogućnosti okluzalnih korekcija i pojave recidiva.¹⁸ Rendgenkefalometrijska ispitivanja veličina bazalnog dela vilice kod osoba sa malokluzijom II/2 ukazuju da se po vrednostima nalaze između III i II/1 klase.⁴

Interesantan je nalaz različitog položaja gornjih frontalnih zuba, kao najupadljivije karakteristike gornjeg zubnog niza kod malokluzije II klase 2. odelenja, kod osoba muškog i ženskog pola. Prethodna istraživanja¹ bez podela uzorka prema polu pokazuju da je najučestalija retruzija centralnih sa protruzijom lateralnih sekutića a najređa retruzija jednog centralnog i jednog lateralnog sekutića i protruzija istoimenih zuba suprotne strane.

tence of significant gender difference ($p < 0.05$). The circumference of the dental arch of the upper jaw also shows significantly bigger mean value with persons of male sex in relation with persons of female sex ($p < 0.01$).

The mean value of the width of the palate is slightly bigger with persons of male sex without statistical significance while the depth of the palate is slightly bigger with persons of female sex, without statistical significance as either. The mean value of the index of the palate does not show either any statistical significance although it is slightly bigger with persons of male sex. As per the mean values, the examinees of both sexes with malocclusion of II/2 have the middle palate.

The distribution of certain types of the palate based on the palate index with persons with malocclusion of II class of 2 division points to the fact that with both sexes the middle palate is most represented, the high palate is present in a higher percentage with persons of female sex in relation with the male sex and shallow palate is least frequently represented with both sexes.

The apical base as part of the body of the jaw, out of which the alveolar extension is developed, is significantly bigger with persons of male sex both at normal occlusion and at malocclusion of II class of the 2nd division (at the significance level $p < 0.01$) both in the upper and the lower jaw. This fact points to having much better treatment prognosis with persons of male sex as well as lessened probability of recidivus appearance after successfully performed treatment both with persons with malocclusion of II class of the 2nd division just due to well developed apical base, especially the upper jaw. The size of the apical base represents a significant factor in predicting possibilities of occlusal corrections and appearing of recidivus.¹⁸ Roentgencefalometric examinations of the size of the basal part of the jaw with persons with malocclusion II/2 show that they are located, as per the values, between III and II/1 class.⁴

The finding of a different position of the upper frontal teeth is interesting being most striking characteristic of the upper dental string with malocclusion II class of the 2nd division with persons of male and female sexes. Prior investigations¹ without dividing the samples according to the gender show that retrusion of the central with protrusion of the lateral incisors is most frequent and retrusion of one central and one lateral incisor and protrusion of similar teeth of the opposite side are least frequent.

U našem istraživanju gde je uzorak podeljen prema polu, kod osoba muškog pola u najvećem procentu sreće se retruzija svih sekutića, kod osoba ženskog pola najčešće se sreće, ono što zovemo "klasičnim" oblikom degbisa, a to je retruzija centralnih i protruzija lateralnih sekutića.

Širina maksilarnog zubnog niza osoba sa normalnom okluzijom, značajno je veća kod muškog pola u svim ispitivanim promerima. Najveću razliku nalazimo između očnjaka i prvih premolara na nivou značajnosti $p < 0,001$. Rastojanje između drugih premolara i prvih stalnih molara je takođe značajno veće kod osoba muškog pola mada je razlika na nižem nivou značajnosti ($p < 0,01$).

Takođe je i širina mandibularnog zubnog niza u svim promerima veća kod osoba muškog pola. Kao i u gornjem zubnom luku razlika je najveća u predelu očnjaka i prvih premolara na nivou značajnosti od $p < 0,001$, dok je nešto manja, ali još uvek visoko statistički značajna kod rastojanja u predelu premolara ($p < 0,001$) i šestogodišnjih molara ($p < 0,01$).

Analizirajući dimenzije zubnih lukova gornje i donje vilice kod osoba sa idealnom okluzijom neki autori nalaze veće vrednosti dimenzija zubnih lukova (širine i dužine) na nivou značajnosti $p < 0,05$ do $p < 0,001$ kod osoba muškog pola što se poklapa sa našim nalazima. Zato sugerišu da dimenzije zubnih lukova kod idealne okluzije u stalnoj denticiji treba uzimati u obzir posebno po polovima.¹⁹

Prosečna vrednost visine zubnog luka gornje vilice je značajno veća kod osoba muškog pola $p < 0,01$. Postoji izražen polni dimorfizam za vrednosti obima maksilarnog zubnog luka u korist osoba muškog pola $p < 0,01$.

Širina i visina nepca su povezani sa oblikom lica, pa je stoga poznato da osobe sa uskim licem imaju i uske vilice i visoko nepce, a sa širokim licem, široke vilice i plitko nepce. Postoji značajna polna razlika širine nepca u korist osoba muškog pola ($p < 0,01$), a takođe i dubina, nepca pokazuje veće vrednosti kod osoba muškog pola, mada je razlika na nižem nivou značajnosti ($p < 0,05$).

Indeks nepca se ne razlikuje značajno između polova kod osoba sa normalnom okluzijom. Vrednosti indeksa nepca ukazuju da je najzastupljenija srednja visina nepca s tim što je

In our investigation where the sample is divided according to gender, with persons of male sex, in the biggest percentage, there is encountered retrusion of all incisors, with persons of female sex there is most frequently encountered what we call "classical" form of degbis and that is retrusion of the central and protrusion of the lateral incisors.

The width of maxillary dental string of persons with normal occlusion is significantly bigger with the male sex in all examined diameters. We find the biggest difference between canines and the first premolars at significance level $p < 0,001$. The distance between the second premolars and first permanent molars is also significantly bigger with persons of male sex although the difference is at a lower significance level ($p < 0,01$).

In addition, the width of mandibular dental string in all diameters is bigger with persons of male sex. As in the upper dental arch, the difference is the biggest in the region of the canine and first premolars at significance level of $p < 0,001$, while it is slightly smaller, but still highly statistically significant with the distance, in the region of premolars ($p < 0,001$) and six-year-old molars ($p < 0,01$).

By analysing the dimensions of the dental arches of the upper and lower jaws with persons with ideal occlusion, some authors find greater values of dimensions of dental arches (width and length) at significance level $p < 0,05$ to $p < 0,001$ with persons of male sex which coincides with our findings. Therefore they suggest that dimensions of dental arches with ideal occlusion in permanent dentition is to be taken into consideration especially as per sexes.¹⁹

The mean value of the height of the dental arch of the upper jaw is significantly bigger with persons of male sex $p < 0,01$. There is an expressed gender dimorphism for values of circumference of maxillary dental arch in favour of persons of male sex $p < 0,01$.

The width and height of the palate are connected with the shape of the face and thereupon it is known that persons with narrow face also have narrow jaws and high palate and those with wide face and shallow palate. There is significant gender difference of the width of the palate in favour of persons of male sex. ($P < 0,01$) and, also, the depth of the palate shows higher values with persons of male sex although the difference is at a lower level of significance ($p < 0,05$).

The index of the palate does not differ significantly between sexes with persons with nor-

kod osoba muškog pola u manjem procentu prisutno i visoko nepce. Polne razlike visine nepca nisu bile statistički značajne.

Prosečna vrednost širine apikalne baze gornje vilice kod osoba muškog pola sa normalnom okluzijom ukazuje na postojanje visoko značajnih polnih razlika ($p < 0,001$) širine bazalnog dela gornje vilice u korist osoba muškog pola.

Prosečna vrednost širine apikalnog dela donje vilice je značajno veća kod osoba muškog pola ($p < 0,001$).

Prisutne su izražene polne razlike visine i obima zubnog luka gornje vilice u korist osoba muškog pola, kako kod osoba sa normalnom okluzijom ($p < 0,01$) tako i kod osoba sa malokluzijom II klase 2. odeljenja ($p < 0,01$).

Zaključak

Na osnovu dobijenih rezultata ispitivanja polnih razlika dentoalveolarnih karakteristika osoba sa malokluzijama II klase 2. odeljenja i osoba sa normalnom okluzijom mogu se izvesti sledeći zaključci:

Širina maksilarnog zubnog niza kod malokluzija II/2 je veća u svim ispitivanim pro-merima kod osoba muškog pola, mada statistički značajna razlika postoji u predelu očnjaka i prvih premolara. Kod osoba sa normalnom okluzijom značajno je veća širina maksilarnog zubnog luka u svim ispitivanim pro-merima.

Širina mandibularnog zubnog niza je takođe veća kod osoba muškog pola, mada jedina značajna razlika postoji u predelu prvih stalnih molara, dok je kod osoba sa normalnom okluzijom značajno širi donji zubni niz u svim ispitivanim pro-merima.

Visina i obim zubnog luka gornje vilice su značajno veći kod osoba muškog pola, kako kod pacijenata sa malokluzijom II/2, tako i kod normalne okluzije.

Kod pacijenata sa malokluzijom II/2 širina nepca je veća kod osoba muškog pola bez statističke značajnosti, dok su dubina i indeks nepca nešto veći kod osoba ženskog pola.

mal occlusion. The values of the index of the palate indicate that the mean height of the palate is most frequently represented provided persons of male sex in a smaller percentage also have a high palate. Gender differences of the height of the palate were not statistically significant.

The mean value of the width of the apical base of the upper jaw with persons of male sex with normal occlusion indicate the existence of highly significant gender differences ($p < 0.001$) of the width of the basal part of the upper jaw in favour of persons of male sex.

The mean value of the width of the apical part of the lower jaw is significantly bigger with persons of male sex ($p < 0.001$).

There are present expressed gender differences of the height and circumference of the dental arch of the upper jaw in favour of persons of male sex both with persons with normal occlusion ($p < 0.01$) and with persons with malocclusion II class, the 2nd division ($p < 0.01$).

Conclusion

Based on the received results of examining gender differences of dentoalveolar characteristics of persons with malocclusions of II class of the 2nd division and persons with normal occlusion, there can be the following conclusions given:

The width of the maxillary dental string with malocclusions II/2 is bigger in all examined diameters with persons of male sex although statistically significant difference exists in the region of canines and the first premolars. With persons with normal occlusion, the width of the maxillary dental arch is significantly bigger in all examined diameters.

The width of the mandibular dental string is also bigger with persons of male sex although the only significant difference exists in the region of the first permanent molars while with persons with normal occlusion, the lower dental string is significantly wider in all examined diameters.

The height and circumference of the dental arch of the upper jaw are significantly bigger with persons of male sex both with patients with malocclusion II/2 and with normal occlusion.

With patients with malocclusion II/2 the width of the palate is bigger with persons of male sex without statistical significance while the depth and index of the palate are slightly

Osobe muškog pola sa normalnom okluzijom imaju značajno veće vrednosti širine i dubine nepca.

Prema prosečnim vrednostima indeksa nepca, ispitanici sa malokluzijom II klase 2. odeljenja i normalnom okluzijom oba pola imaju srednju visinu nepca.

Širina apikalne baze gornje i donje vilice je značajno veća kod osoba muškog pola kod ispitivanih grupa.

Položaj gornjih frontalnih zuba, što inače predstavlja jednu od osnovnih karakteristika ove anomalije, je različit kod osoba muškog i ženskog pola. Kod osoba muškog pola dominira retruzija svih sekutića, dok se kod osoba ženskog pola najčešće sreće retruzija centralnih i protruzija lateralnih sekutića.

bigger with persons of female sex. The persons of the male sex with normal occlusion have significantly bigger values of the width and depth of the palate.

According to the mean values of the index of the palate, the examinees with malocclusion II class of the 2nd division and normal occlusion of both sexes have a middle height of the palate.

The width of the apical base of the upper and lower jaw is significantly bigger with persons of male sex with examined groups.

The position of the upper frontal teeth, still representing one of the basic characteristics of this anomaly, is different with persons of male and female sexes. With persons of male sex, there is dominant retrusion of all incisors while with persons of female sex retrusion of central and protrusion of lateral incisors are most widely met with.

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