The Effects of Different Patterns of Tooth Agenesis on Tooth Dimensions

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The Effects of Different Patterns of Tooth Agenesis on Tooth Dimensions

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ABSTRACT

Objective: Tooth agenesis is a multifactorial condition accompanied by morphological differences. This study aimed to investigate the effects of different patterns of tooth agenesis on tooth dimensions. Methods: Records of children registered at the Department of Pedodontics and had tooth agenesis were reviewed, and those aged between 7 and 18 years of age with no systemic diseases, syndromes, or fluorosis were included in the study; the third molars were excluded. The study sample comprised 82 patients with one to six teeth missing (Group 1; hypodontia), 26 with more than six teeth missing (Group 2; oligodontia), and 31 with no missing teeth (Group 3; control). Mesiodistal widths, buccopalatal/labiolingual depths, and cervicoincisal/cervicoocclusal heights of permanent teeth were measured. Data were analyzed statistically. Results: Majority of the teeth in Group 2 were smaller than those in the other groups. Tooth agenesis was correlated with a dimensional decrease in mesiodistal width. Tooth dimensions were generally smaller in patients with tooth agenesis in both jaws (upper and lower) and regions (anterior and posterior). Conclusion: Decrease in tooth dimensions increased with the increase in the number of missing teeth. Teeth with clinically reduced dimensions or modifications during formation should receive additional attention from clinicians with regard to tooth agenesis.

Keywords: agenesis, dentofacial anomalies, tooth dimension

INTRODUCTION

Tooth agenesis, which refers to the congenital absence of a tooth or multiple teeth, is a multifactorial condition accompanied by several morphological variations. The unfavorable effects of this condition on the growth and development of dento-craniofacial structures lead to psychological, esthetic, and functional problems. The treatment of tooth agenesis requires a multidisciplinary approach; therefore, early diagnosis of this condition is important. Decrease in tooth dimensions (microdontia) and differences in tooth form have been reported in patients with tooth agenesis.1-4 Moreover, the probability of microdontia increases with the increase in the number of missing teeth.5,7 Teeth reflect the biological and physiological ages of individuals; however, variations related to genetic factors and chewing habits could affect the anatomy of the tooth.4 It has been implied that the probability of tooth agenesis was higher in the case of less frequently used teeth.9 Highly variable dimensional differences and simpler occlusal anatomy in individuals with tooth agenesis have been reported.9 Therefore, it is speculated that there might exist a correlation between tooth agenesis and differences in tooth dimensions.2 Tooth dimensions have been frequently used to investigate the evolution and define variations between different populations. It has been shown that tooth morphology and dimensions have been differentiated during evolution depending on technological, environmental, and dietary changes.11 In addition, genetic factors have been demonstrated to exert important effects on tooth dimensions.12 The study which showed that tooth dimensions also decreased in relatives of patients with tooth agenesis supported this information.7 Furthermore, several studies have confirmed this multifactorial model by demonstrating that both genetic and environmental factors played roles in the occurrence of numerical and dimensional abnormalities in teeth.6,7,13

The current study aimed to investigate the effects of different patterns of tooth agenesis on tooth dimensions.
METHODS

The present study was approved by the Clinical Research Ethics Committee of the Medical School at Suleyman Demirel University. The records of children who had registered at the Department of Pedodontics at the Faculty of Dentistry, Suleyman Demirel University, and had tooth agenesis were reviewed. Then, the patients were recalled and invited to enroll in the current study. Written informed consent was obtained from the patients and the parents of those who volunteered for the study. Children within the age range of 7-18 years, without any systemic diseases or syndromes, including fluorosis due to high levels of fluoride in drinking water, were included in this study. The third molars were not included in the evaluation. A total of 82 patients (54 females and 28 males) with one to six teeth missing (Group 1; hypodontia), 26 patients (13 females and 13 males) with more than six teeth missing (Group 2; oligodontia), and 31 patients (17 females and 14 males) with no missing teeth (Group 3; controls) were designated. Tooth agenesis was diagnosed on the basis of the absence of any sign of crown calcification on the radiograph and any evidence that the tooth had been extracted. Patients with orthodontic treatment, unhealthy gingival or periodontal tissues, and partially erupted, worn, decayed, and/or restored teeth were excluded from the study.

Dental impressions were provided by using the irreversible hydrocolloid impression material, alginate. In order to prevent dimensional deformations, the impressions were poured as soon as possible, and solid cast study models were obtained. In each study model, dimension measurements of existing permanent teeth were performed with an electronic digital caliper, which measured tooth dimensions with a sensitivity of 0.01 mm. The mesiodistal width of the tooth was recorded as the largest distance measured between the mesial and distal contact points by placing the tips of the caliper parallel to the planes of mesiodistal measurement. Cervicoincisal/cervico-occlusal height of the teeth according to the groups and gender is shown in Table 1. The mesiodistal widths of existing permanent teeth, except for tooth numbers 15, 14, 25, 35, 36, 45, and 46, were found to be smaller in Group 2 when compared with the other two groups. Tooth number 22 was the only tooth that presented with a difference in mesiodistal width between Group 1 and the control group. The only statistically significant difference in Group 2 was the presence of tooth agenesis in the jaws and different effects on those teeth.

The obtained value was determined to be high, and no statistically significant difference was observed between the measurements.

A comparison of the mesiodistal widths of the teeth according to the groups and gender is shown in Table 1. The mesiodistal widths of existing permanent teeth, except for tooth numbers 13, 12, 11, 21, 23, 31, 32, 36, 41, 42, and 45,
were observed to be smaller in Group 2 when compared with the other two groups. Between Group 1 and the control group, a statistically significant difference was defined in the buccopalatal/labiolingual depths of tooth numbers 33 and 43. Nevertheless, no statistically significant difference in buccopalatal/labiolingual depths of the teeth was detected between females and males in the current study.

Table 3 presents a comparison of the cervicoincisal/cervicoocclusal heights of the teeth according to the groups and gender. The cervicoincisal/cervicoocclusal heights of existing permanent teeth, except for tooth numbers 15, 14, 13, 12, 11, 22, 23, 31, 32, 35, and 41, were found to be smaller in Group 2 when compared with the other two groups. No statistically significant difference was detected in the cervicoincisal/cervicoocclusal heights of the teeth between Group 1 and the control group and also between females and males.

When tooth dimensions were investigated according to the jaw with tooth agenesis, it was revealed that the mesiodistal widths, buccopalatal/labiolingual depths, and cervicoincisal/cervicoocclusal heights of the teeth were statistically significantly smaller in patients who had missing teeth in both the upper and lower jaws when compared with those in the other groups (Table 4-6). The mesiodistal widths of upper central and lateral incisor teeth were significantly smaller in patients who had missing teeth in the upper jaw only and in those who had missing teeth in both upper and lower jaws. Furthermore, investigations based on regions with tooth agenesis revealed that the mesiodistal widths and buccopalatal/labiolingual depths of the teeth were significantly smaller in patients who had missing teeth in both the anterior and posterior regions when compared with those in the other groups (Table 7-9). The mesiodistal widths of the upper central and lateral incisor teeth were significantly smaller in patients with missing teeth in both the anterior region only and in those with missing teeth in both the anterior and posterior regions.

DISCUSSION

Various methods have been used to correctly measure tooth dimensions, which are important definition tools for forensic medicine, anthropology, and dentistry. The commonly used techniques involve intraoral measurements or measurements on cast models using a digital caliper, as well as image analysis systems that are supported by computers. The researchers who performed intraoral measurements to define permanent tooth dimensions reported that the dimensions obtained via these measurements were significantly smaller than those obtained on cast models and that this method was more difficult than that performed on cast models. Studies conducted using computer-supported image analysis systems demonstrated that these systems could define tooth dimensions faster, in greater detail, and more correctly than the conventional method; multiple calculations could be performed from a single image, and it could overcome methodological errors related to the researcher. However, their accessibility and availability have been limited because image analysis systems are expensive and require appropriate technical infrastructure. On the other hand, some researchers have reported that computer-supported image analysis systems are not superior to the conventional method but can be used as an alternative approach in tooth dimension measurement. In line with this information, digital caliper measurements were performed on cast models to define tooth dimensions in the current study in order to obtain correct and reliable measurements at lower costs. To overcome researcher-related methodological errors, calibration and standardization were provided; each tooth was measured twice, and the mean values of those measurements were recorded. A third measurement was taken in cases where a difference between the two measurements was observed.

Difficulties in using the caliper on the posterior group of teeth were experienced while measuring the cervicoincisal/cervicoocclusal height. Individuals with oligodontia have rarely been encountered; therefore, our data were not limited to any particular age group, which may be considered as a limitation of the current study. Patients who presented with minimal changes at the gingival borders and in tooth wear ratio with respect to the dentition periods, eruption activities, and age may have been evaluated together because of the unlimited age range. However, the study was conducted elaborately taking into account these factors. Partially erupted or worn teeth were excluded, and measurements were performed to provide the researchers with some idea. Our results were similar to that of another study indicating that the cervicoincisal/cervicoocclusal height measurements obtained from individuals with tooth agenesis were accurate and useful. Nevertheless, researchers should pay attention to age limitations in order to measure tooth dimensions accurately.

It was emphasized that larger studies with larger sample sizes were required so that changes in tooth dimensions could be identified more correctly in individuals with tooth agenesis. In the current study, 82 individuals with hypodontia, 26 with oligodontia, and 31 without tooth agenesis were evaluated. We believe that no patient with oligodontia was missed in this study because the Faculty of Dentistry in our institute is the only one in the district and acts as a referral center for cases requiring special approaches. Moreover, patient applications from neighboring provinces are accepted at this faculty. If the incidence of oligodontia is considered as quite low, it is realized that the number of cases with oligodontia included in this present study was quite high. On the other hand, our study sample
was collected on the basis of the voluntariness of the participants; therefore, the sample size could not be increased. This was another limitation of our study. The inclusion of more number of patients with tooth agenesis in future studies is merited.

Measurements of the mesiodistal widths and/or buccopalatal/labiolingual depths of teeth have been performed in several studies. It was indicated that measurement of the mesiodistal width alone is not sufficient for tooth dimension comparisons. Therefore, the mesiodistal width, buccopalatal/labiolingual depth, and cervicoincisal/cervicoocclusal height, which could reflect the tooth size in more detail, should be measured and evaluated together.

Our data supported the findings of previous studies wherein tooth agenesis was reported to be correlated with a dimensional decrease in the mesiodistal direction; the decrease in tooth dimensions was found to increase with the number of missing teeth. The majority of teeth in Group 2 were smaller than those in the other groups because of the presence of individuals with oligodontia in the group. In the present study, the decrease in mesiodistal width was more commonly observed in teeth belonging to the anterior region when compared with those in the posterior region, which is consistent with the findings of another study. Conversely, decrease in buccopalatal/labiolingual depth was more prominent in teeth belonging to the posterior region when compared with those in the anterior region. Statistically significant differences in mesiodistal widths and buccopalatal/labiolingual depths between Groups 1 and 3 were observed in tooth number 22 and tooth numbers 33 and 43, respectively, confirming the morphogenetic fields theory, which claims that the initially developed tooth shows fewer morphological differences when compared with the tooth that develops later depending on the segment in which it is located (incisor, canine, premolar, or molar tooth regions). However, the concept of morphogenetic fields has been considerably updated, and it is now believed that the field and clone models can be viewed as complementary to each other. The clone model proposes that a single clone of pre-programmed cells leads to the development of all the teeth within a particular class but does not provide an explanation for how the dentition develops as a whole, with different tooth classes displaying different shapes. In the incisor segment, lateral incisors and canines develop later than the central incisors due to which they may have presented with more morphologic differences. This may account for the detection of a decrease in tooth dimensions in the group with fewer missing teeth. In Group 2, a statistically significant difference in the mesiodistal widths of tooth numbers 31 and 41 was detected between females and males, with females presenting with smaller teeth when compared with males. Researchers have reported that the teeth of males are generally larger than that of females; nevertheless, the lower central incisors do not show any significant difference in size with relation to gender, and the prevalence of both hypodontia and microdontia is reported to be higher in females. On the other hand, the difference related to gender may be misleading because in the current study, tooth numbers 31 and 41 were missing in more than half of the participants in Group 2, whereas the remaining numbers of females and males were not equal.

Defining teeth with smaller dimensions in individuals with tooth agenesis in both jaws (upper and lower) or regions (anterior and posterior) may be attributed to the collection of individuals with a large number of missing teeth in these groups; the decrease in tooth dimensions was also found to increase with the number of missing teeth. The mesiodistal widths of the upper central and lateral incisor teeth were smaller in individuals who had tooth agenesis in the upper jaw, in both upper and lower jaws, in the anterior region, or in both anterior and posterior regions. The buccopalatal/labiolingual depths and cervicoincisal/cervicoocclusal heights of the upper lateral incisor teeth were smaller in individuals with tooth agenesis in the upper jaw only. These findings are similar to those reported in another study, which investigated whether the prevalence and pattern of dental anomalies associated with hypodontia isolated in the maxilla were different from those isolated in the mandible and concluded that maxillary hypodontia was significantly associated with microdontia of the maxillary lateral incisors. Furthermore, isolated bilateral absence of maxillary lateral incisors have been associated with reduced mesiodistal width in both maxillary and mandibular anterior segments. These findings support the theory that the regions of the incisor and premolar teeth may be more sensitive to specific threshold values of gene activities required for normal development.

**CONCLUSION**

The decrease in tooth dimensions increased with the increase in the number of missing teeth in the current study. Teeth with clinically reduced dimensions or morphologic modifications during formation should be carefully evaluated by clinicians, especially with regard to tooth agenesis. Further studies including a larger study sample with limited age range will be able to provide additional information about the dimensions of existent teeth in patients with tooth agenesis.

**CONFLICT OF INTEREST**

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### Table 1. Comparison of the mesiodistal widths of the teeth according to the groups and gender.

|                | Group 1-Hypodontia | Group 2-Oligodontia | Group 3-Control | Total |
|----------------|-------------------|---------------------|-----------------|-------|
| **Female**     |                   |                     |                 |       |
| Mean and SD (n) | 10.08±0.07 (53)   | 6.91±0.07 (27)      | 20.20±0.05 (80) | 9.50±0.34 (8)  |
| **Male**       | 10.42±0.07 (27)   | 6.62±0.05 (16)      | 10.02±0.03 (5)  | 9.76±0.25 b    |
| **Total**      | 10.94±0.07 (80)   | 7.55±0.04 (43)      | 10.27±0.12 (17) | 9.76±0.12 (14) |
| **SD**         | ±0.07 (53)        | ±0.05 (80)          | ±0.08 (16)      | ±0.25 b (5)    |
| **N**          | 80                | 43                  | 17              | 53     |
| **Female**     | 10.28±0.07 (8)    | 6.95±0.07 (27)      | 10.27±0.12 (17) | 10.07±0.12 (14) |
| **Male**       | 10.07±0.07 (6)    | 6.37±0.07 (27)      | 10.28±0.12 (17) | 10.31±0.12 (14) |
| **Total**      | 10.44±0.07 (53)   | 7.32±0.07 (27)      | 10.27±0.12 (17) | 10.31±0.12 (14) |
| **SD**         | ±0.07 (53)        | ±0.07 (27)          | ±0.07 (27)      | ±0.07 (27)    |
| **N**          | 53                | 27                  | 27              | 53     |

*Teeth with one or no patient.
†Capital letters “A, B” indicate differences between means of genders, and small letters “a, b” indicate differences between the group means.
Table 2. Comparison of the buccopalatal/labiolingual depths of the teeth according to the groups and gender.

|                | Group 1-Hypodontia | Group 2-Oligodontia | Group 3-Control | Total |
|----------------|--------------------|---------------------|-----------------|-------|
|                | Female Mean ± SD   | Male Mean ± SD      | Female Mean ± SD| Male Mean ± SD |
|                | (n)                | (n)                 | (n)             | (n)   |
| 16             | 11.15 ±0.08        | 11.82 ±0.12         | 11.38 ±0.07 ab  | 11.31 ±0.23 b |
|                | (50)               | (27)                | (8)             | (15)  |
| 15             | 8.94 ±0.14         | 9.30 ±0.23          | 8.25 ±0.55 (4)  | 8.44 ±0.47 b |
|                | (16)               | (10)                | (5)             | (12)  |
| 14             | 8.99 ±0.10         | 9.10 ±0.26          | 8.15 ±0.33 (3)  | 8.49 ±0.44 b |
|                | (30)               | (12)                | (7)             | (14)  |
| 13             | 7.84 ±0.14         | 8.36 ±0.16          | 8.06 ±0.35 (4)  | 8.17 ±0.20 (8) |
|                | (19)               | (28)                | (25)            | (11)  |
| 12             | 6.03 ±0.13         | 6.62 ±0.11          | 5.98 ±0.46 (4)  | 5.94 ±0.38 (7) |
|                | (28)               | (12)                | (40)            | (14)  |
| 11             | 6.79 ±0.11         | 7.02 ±0.14          | 6.51 ±0.22      | 6.93 ±0.17 (9) |
|                | (47)               | (21)                | (25)            | (20)  |
| 21             | 6.79 ±0.11         | 7.13 ±0.15          | 6.58 ±0.26      | 6.96 ±0.13 (9) |
|                | (48)               | (21)                | (69)            | (20)  |
| 22             | 6.16 ±0.11         | 6.63 ±0.17          | 6.02 ±0.55 (4)  | 5.67 ±0.80 (4) |
|                | (28)               | (14)                | (42)            | (8)   |
| 23             | 7.78 ±0.12         | 8.30 ±0.12          | 7.90 ±0.30 (5)  | 7.90 ±0.23 (4) |
|                | (22)               | (4)                 | (29)            | (11)  |
| 24             | 9.01 ±0.10         | 9.48 ±0.21          | 7.94 ±0.60 (4)  | 7.15 ±1.19 (3) |
|                | (32)               | (14)                | (46)            | (7)   |
| 25             | 8.86 ±0.13         | 9.82 ±0.23 (9)      | 7.96 ±0.56 (5)  | 8.17 ±0.50 b |
|                | (17)               | (26)                | (6)             | (12)  |
| 26             | 11.10 ±0.07        | 11.76 ±0.12         | 11.33 ±0.40 (7) | 10.64 ±0.22 (7) |
|                | (47)               | (25)                | (72)            | (14)  |

*The presence of the tooth in one or no patient.
†Capital letters “A, B” indicate differences between means based on gender, and small letters “a, b” indicate differences between the group means.
Table 2. Comparison of the buccopalatal/labiolingual depths of the teeth according to the groups and gender (continued).

|                | Group 1-Hypodontia | Group 2-Oligodontia | Group 3-Control | Total |
|----------------|-------------------|---------------------|----------------|-------|
|                | Female Mean and SD (n) | Male Mean and SD (n) | Total Mean and SD (n) | Female Mean and SD (n) | Male Mean and SD (n) | Total Mean and SD (n) | Female Mean and SD (n) | Male Mean and SD (n) | Total Mean and SD (n) |
| 36             | 10.58 ±0.07 (46)   | 10.93 ±0.10 (25)    | 10.70 ±0.06 (71)   | 10.16 ±0.12 (9)  | 10.85 ±0.20 (7)  | 10.46 ±0.22 (16)   | 10.65 ±0.09 (17)   | 10.71 ±0.13 (14)   | 10.68 ±0.08 (31)   | 10.55 ±0.06 B (46) | 10.85 ±0.08 A (46) |
| 35             | 8.24 ±0.15 (14)    | 8.87 ±0.23 (7)      | 8.45 ±0.14 a (21)  | 7.07 ±0.53 (5)  | 7.81 ±0.44 b (7) | 7.60 ±0.15 (13)   | 8.64 ±0.15 (13)   | 8.83 ±0.24 (8)     | 8.71 ±0.13 a (21)  | 8.34 ±0.13 a (20)  | 8.97 ±0.13 B (20)  | 8.59 ±0.20 A (20)  |
| 34             | 7.87 ±0.09 (32)    | 8.45 ±0.15 (13)     | 8.04 ±0.09 a (45)  | 7.13 ±0.27 (8)  | 7.95 ±0.23 b (15) | 7.57 ±0.16 (14)   | 7.98 ±0.16 (14)   | 8.31 ±0.17 (9)     | 8.11 ±0.12 a (23)  | 7.80 ±0.12 B (23)  | 7.95 ±0.09 B (23)  | 8.11 ±0.11 A (30)  |
| 33             | 6.98 ±0.11 (32)    | 7.13 ±0.20 (11)     | 7.02 ±0.09 b (43)  | 7.00 ±0.17 (8)  | 7.01 ±0.15 b (15) | 7.01 ±0.09 (14)   | 7.46 ±0.09 (14)   | 7.48 ±0.28 (8)     | 7.47 ±0.11 a (22)  | 7.07 ±0.11 a (22)  | 7.28 ±0.12 B (22)  | 7.28 ±0.12 A (27)  |
| 32             | 6.06 ±0.09 (46)    | 6.08 ±0.11 (21)     | 6.07 ±0.07 (67)    | 6.08 ±0.24 (6)  | 5.87 ±0.179 (13) | 6.28 ±0.11 (17)   | 6.28 ±0.11 (17)   | 6.21 ±0.09 (28)    | 6.08 ±0.07 (69)    | 6.12 ±0.07 (69)    | 6.12 ±0.06 B (39)  | 6.12 ±0.08 (39)    |
| 31             | 5.68 ±0.08 (43)    | 5.90 ±0.11 (20)     | 5.75 ±0.07 (63)    | 5.44 ±0.27 (7)  | 6.10 ±0.22 (3)  | 5.64 ±0.22 (10)   | 5.95 ±0.08 (17)   | 5.95 ±0.15 (14)    | 5.95 ±0.08 (31)    | 5.72 ±0.06 B (67)  | 5.94 ±0.08 A (37)  | 5.94 ±0.08 (37)    |
| 41             | 5.72 ±0.07 (44)    | 5.92 ±0.10 (21)     | 5.79 ±0.06 (65)    | 5.64 ±0.27 (8)  | 6.06 ±0.24 (3)  | 5.75 ±0.21 (11)   | 5.99 ±0.09 (17)   | 5.87 ±0.13 (14)    | 5.94 ±0.08 (31)    | 5.78 ±0.06 B (69)  | 5.91 ±0.08 (38)    | 5.91 ±0.08 (38)    |
| 42             | 6.06 ±0.09 (46)    | 6.13 ±0.13 (20)     | 6.08 ±0.07 (66)    | 5.54 ±0.17 (7)  | 6.10 ±0.27 (6)  | 5.80 ±0.17 (13)   | 6.23 ±0.10 (17)   | 6.12 ±0.19 (11)    | 6.19 ±0.09 (28)    | 6.05 ±0.07 (70)    | 6.13 ±0.10 (37)    | 6.13 ±0.10 (37)    |
| 43             | 6.96 ±0.09 (34)    | 7.09 ±0.18 (12)     | 6.99 ±0.08 b (46)  | 6.49 ±0.18 (8)  | 7.29 ±0.14 (8)  | 6.89 ±0.15 b (16) | 7.42 ±0.11 (14)   | 7.55 ±0.24 (8)     | 7.46 ±0.11 a (22)  | 7.01 ±0.08 B (28)  | 7.28 ±0.11 A (28)  | 7.28 ±0.11 (28)    |
| 44             | 7.82 ±0.08 (32)    | 8.49 ±0.18 (12)     | 7.99 ±0.09 a (44)  | 7.41 ±0.23 (6)  | 7.54 ±0.23 (8)  | 7.48 ±0.16 b (14) | 7.98 ±0.13 (14)   | 8.30 ±0.21 (9)     | 8.10 ±0.12 a (23)  | 7.81 ±0.07 B (29)  | 8.17 ±0.14 A (29)  | 8.17 ±0.14 (29)    |
| 45             | 8.37 ±0.27 (13)    | 8.93 ±0.30 (5)      | 8.53 ±0.22 (18)    | 8.19 ±0.53 (4)  | 8.36 ±0.44 (5)  | 8.60 ±0.17 (13)   | 8.60 ±0.17 (13)   | 8.92 ±0.25 (8)     | 8.72 ±0.14 (21)    | 8.51 ±0.15 (27)    | 8.75 ±0.20 B (17)  | 8.75 ±0.20 A (17)  |
| 46             | 10.56 ±0.06 (49)   | 10.99 ±0.10 (25)    | 10.71 ±0.06 a (74) | 9.99 ±0.32 (9)  | 10.64 ±0.26 (8) | 10.29 ±0.22 b (17) | 10.57 ±0.10 (17) | 10.69 ±0.13 (14)   | 10.63 ±0.08 ab (31) | 10.49 ±0.06 B (75) | 10.84 ±0.08 A (47) | 10.84 ±0.08 (47)  |

*The presence of the tooth in one or no patient.
†Capital letters “A, B” indicate differences between means based on gender, and small letters “a, b” indicate differences between the group means.
Table 3. Comparison of the cervicoincisal/cervicoocclusal heights of the teeth according to the groups and gender.

|               | Group 1-Hypodontia | Group 2-Oligodontia | Group 3-Control | Total       |
|---------------|--------------------|---------------------|-----------------|-------------|
|               | Female Mean and SD | Male Mean and SD    | Female Mean and SD | Male Mean and SD | Female Mean and SD | Male Mean and SD | Female Mean and SD | Male Mean and SD | Total Mean and SD |
|               | (n)               | (n)                 | (n)             | (n)          | (n)           | (n)            | (n)           | (n)            | (n)             |
| Group 1       |                    |                     |                 |              |               |                |               |                |                 |
| Hypodontia    |                    |                     |                 |              |               |                |               |                |                 |
|                | 16                 | 15                  | 14              | 13           | 12            | 11             | 21            | 22             | 23              |
| Mean and SD   | 5.76 ±0.10(50)     | 5.64 ±0.17(16)      | 6.81 ±0.13(30)  | 8.67 ±0.18(19)| 7.22 ±0.14(28)| 8.94 ±0.12(47)| 9.03 ±0.12(48)| 7.34 ±0.14(28)| 8.63 ±0.19(23)  |
| (n)           | (77)               | (26)                | (12)           | (6)          | (13)          | (21)           | (70)          | (13)           | (35)            |
| group 2       | Oligodontia        |                     |                 |              |               |                |               |                |                 |
|                | 15                 | 15                  | 14              | 13           | 12            | 11             | 21            | 22             | 23              |
| Mean and SD   | 5.89 ±0.08(27)     | 6.30 ±0.21(10)      | 7.26 ±0.21(12)  | 8.48 ±0.31(6)| 7.75 ±0.20(13)| 9.69 ±0.11(68)| 9.76 ±0.17(22)| 7.95 ±0.21(13)| 8.68 ±0.35(7)   |
| (n)           | (8)                | (26)                | (42)           | (6)          | (13)          | (68)           | (22)          | (13)           | (7)             |
| group 3       | Control            |                     |                 |              |               |                |               |                |                 |
|                | 14                 | 14                  | 14              | 13           | 12            | 11             | 21            | 22             | 23              |
| Mean and SD   | 6.09 ±0.08(27)     | 6.30 ±0.21(10)      | 7.26 ±0.21(12)  | 8.48 ±0.31(6)| 7.75 ±0.20(13)| 9.69 ±0.11(68)| 9.76 ±0.17(22)| 7.95 ±0.21(13)| 8.68 ±0.35(7)   |
| (n)           | (8)                | (26)                | (42)           | (6)          | (13)          | (68)           | (22)          | (13)           | (7)             |
| Total         | 16                 | 15                  | 14              | 13           | 12            | 11             | 21            | 22             | 23              |
| Mean and SD   | 6.34 ±0.24(8)      | 6.81 ±0.26(7)       | 7.69 ±0.41(3)   | 8.61 ±0.36(4)| 7.25 ±0.36(4)| 8.48 ±0.25(11)| 9.17 ±0.22(11)| 7.54 ±0.10(41)| 8.64 ±0.38(4)   |
| (n)           | (77)               | (77)                | (82)           | (70)         | (70)          | (70)           | (70)          | (70)           | (70)            |
| Mean and SD   | 8.63 ±0.20(15)     | 7.81 ±0.19(17)      | 9.26 ±0.20(20)  | 9.06 ±0.20(20)| 7.71 ±0.20(14)| 9.01 ±0.20(20)| 9.06 ±0.20(20)| 7.71 ±0.20(14)| 9.06 ±0.20(20)  |
| (n)           | (15)               | (17)                | (20)           | (20)         | (14)          | (20)           | (20)          | (14)           | (20)            |
| Male Mean and SD | 6.83 ±0.20(15)     | 7.81 ±0.19(17)      | 9.26 ±0.20(20)  | 9.06 ±0.20(20)| 7.71 ±0.20(14)| 9.01 ±0.20(20)| 9.06 ±0.20(20)| 7.71 ±0.20(14)| 9.06 ±0.20(20)  |
| (n)           | (15)               | (17)                | (20)           | (20)         | (14)          | (20)           | (20)          | (14)           | (20)            |
| Female Mean and SD | 6.34 ±0.24(8)      | 6.81 ±0.26(7)       | 7.69 ±0.41(3)   | 8.61 ±0.36(4)| 7.25 ±0.36(4)| 8.48 ±0.25(11)| 9.17 ±0.22(11)| 7.54 ±0.10(41)| 8.64 ±0.38(4)   |
| (n)           | (77)               | (77)                | (82)           | (70)         | (70)          | (70)           | (70)          | (70)           | (70)            |
| Mean and SD   | 8.63 ±0.20(15)     | 7.81 ±0.19(17)      | 9.26 ±0.20(20)  | 9.06 ±0.20(20)| 7.71 ±0.20(14)| 9.01 ±0.20(20)| 9.06 ±0.20(20)| 7.71 ±0.20(14)| 9.06 ±0.20(20)  |
| (n)           | (15)               | (17)                | (20)           | (20)         | (14)          | (20)           | (20)          | (14)           | (20)            |
| Total         | 16                 | 15                  | 14              | 13           | 12            | 11             | 21            | 22             | 23              |
| Mean and SD   | 6.34 ±0.24(8)      | 6.81 ±0.26(7)       | 7.69 ±0.41(3)   | 8.61 ±0.36(4)| 7.25 ±0.36(4)| 8.48 ±0.25(11)| 9.17 ±0.22(11)| 7.54 ±0.10(41)| 8.64 ±0.38(4)   |
| (n)           | (77)               | (77)                | (82)           | (70)         | (70)          | (70)           | (70)          | (70)           | (70)            |
| Mean and SD   | 8.63 ±0.20(15)     | 7.81 ±0.19(17)      | 9.26 ±0.20(20)  | 9.06 ±0.20(20)| 7.71 ±0.20(14)| 9.01 ±0.20(20)| 9.06 ±0.20(20)| 7.71 ±0.20(14)| 9.06 ±0.20(20)  |
| (n)           | (15)               | (17)                | (20)           | (20)         | (14)          | (20)           | (20)          | (14)           | (20)            |
| Total         | 16                 | 15                  | 14              | 13           | 12            | 11             | 21            | 22             | 23              |

*The presence of the tooth in one or no patient.
†Capital letters “A,” “B” indicate differences between means based on gender, and small letters “a,” “b” indicate differences between the group means.
Table 3. Comparison of the cervicoincisal/cervicoocclusal heights of the teeth according to the groups and gender (continued).

|                  | Group 1-Hypodontia |                  |                  |                  |                  |                  |                  |                  |
|------------------|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                  | Female Mean and SD | Male Mean and SD | Total Mean and SD | Female Mean and SD | Male Mean and SD | Total Mean and SD | Female Mean and SD | Male Mean and SD |
|                  | (n)                | (n)              | (n)              | (n)              | (n)              | (n)              | (n)              | (n)              |
| 36               | 6.29 ±0.10(46)     | 6.41 ±0.14(25)   | 6.33 ±0.07 a     | 5.83 ±0.23(9)    | 5.62 ±0.26(7)    | 5.74 ±0.22 b     | 6.23 ±0.17(17)   | 6.22 ±0.18(14)   |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 35               | 6.47 ±0.21(14)     | 7.05 ±0.29(7)    | 6.66 * ±0.18(21) | 6.06 ±0.35(5)    | 6.00 ±0.29(6)    | 6.57 ±0.22 b     | 6.86 ±0.22(13)   | 6.68 ±0.27(8)    |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 34               | 7.52 ±0.12(32)     | 8.21 ±0.19(13)   | 7.72 ±0.10 a     | 6.94 ±0.26(7)    | 7.17 ±0.24(8)    | 7.07 ±0.22 b     | 7.60 ±0.18(14)   | 8.37 ±0.23(9)    |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 33               | 8.64 ±0.15(33)     | 9.17 ±0.26(11)   | 8.77 ±0.13 ab    | 8.31 ±0.32(7)    | 8.58 ±0.30(8)    | 8.46 ±0.22 b     | 8.71 ±0.23(14)   | 9.82 ±0.30(8)    |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 32               | 7.72 ±0.12(46)     | 8.22 ±0.18(21)   | 7.97 ±0.11(67)   | 7.50 ±0.33(6)    | 7.47 ±0.31(7)    | 7.48 ±0.24(13)   | 7.99 ±0.20(17)   | 8.08 ±0.25(11)   |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 31               | 7.85 ±0.11(43)     | 8.40 ±0.16(20)   | 8.02 ±0.10(63)   | 7.56 ±0.28(7)    | 7.60 ±0.42(3)    | 7.58 ±0.25(10)   | 8.11 ±0.18(17)   | 8.17 ±0.19(14)   |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 41               | 7.80 ±0.11(44)     | 8.41 ±0.16(21)   | 8.00 ±0.11(65)   | 7.42 ±0.26(8)    | 7.80 ±0.42(3)    | 7.53 ±0.20(11)   | 8.13 ±0.18(17)   | 8.16 ±0.19(14)   |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 42               | 7.75 ±0.12(46)     | 8.20 ±0.18(20)   | 7.89 ±0.10 a     | 7.19 ±0.31(7)    | 7.33 ±0.34(6)    | 7.25 ±0.27 b     | 8.15 ±0.20(17)   | 8.14 ±0.25(11)   |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 43               | 8.73 ±0.15(34)     | 8.83 ±0.25(12)   | 8.76 ±0.13 ab    | 8.20 ±0.31(8)    | 8.59 ±0.31(8)    | 8.39 ±0.23 b     | 8.74 ±0.23(14)   | 9.77 ±0.31(8)    |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 44               | 7.51 ±0.13(32)     | 7.94 ±0.21(12)   | 7.63 ±0.10 a     | 6.77 ±0.30(6)    | 7.19 ±0.26(8)    | 7.01 ±0.24 b     | 7.59 ±0.20(14)   | 8.23 ±0.25(9)    |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 45               | 6.39 ±0.21(12)     | 7.18 ±0.32(5)    | 6.62 ±0.19 ab    | 5.65 ±0.36(4)    | 5.84 ±0.41(5)    | 6.73 ±0.20(13)   | 7.10 ±0.25(8)    | 6.87 ±0.15(21)   |
|                  |                    |                  |                  |                  |                  |                  |                  |                  |
| 46               | 6.41 ±0.09(50)     | 6.56 ±0.12(25)   | 6.46 ±0.07 a     | 5.23 ±0.22(8)    | 5.87 ±0.22(8)    | 5.55 ±0.22 b     | 6.31 ±0.15(17)   | 6.40 ±0.16(14)   |

*The presence of the tooth in one or no patient.
†Capital letters “A, B” indicate differences between means of genders, and small letters “a, b” indicate differences between the group means.
Table 4. Comparison of the mesiodistal widths of the teeth according to the jaw with tooth agenesis and gender.

|                          | Patients with missing teeth in the upper jaw only | Patients with missing teeth in the lower jaw only | Patients with missing teeth in both the upper and lower jaws | Control | Total |
|--------------------------|--------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------|---------|-------|
|                          | Female Mean and SD (n) | Male Mean and SD (n) | Total Female Mean and SD (n) | Total Male Mean and SD (n) | Total Female Mean and SD (n) | Total Male Mean and SD (n) | Total Female Mean and SD (n) | Total Male Mean and SD (n) |
| 16                       | 9.39 ±0.12 (16) | 10.04 ±0.10 (21) | 10.19 ±0.10 (15) | 10.56 ±0.08 (33) | 9.90 ±0.14 (26) | 10.15 ±0.11 (42) | 9.99 ±0.12 (17) | 10.27 ±0.14 (31) | 10.28 ±0.09 (31) | 10.07 ±0.07 B ±0.08 A |
| 15                       | 6.13 ±0.09 (6) | 7.26 ±0.14 (3) | 6.50 ±0.12 (9) | 6.71 ±0.23 (7) | 6.58 ±0.11 (19) | 6.34 ±0.28 (5) | 6.73 ±0.10 (17) | 6.90 ±0.14 (31) | 6.80 ±0.08 (22) | 6.53 ±0.07 B ±0.12 A |
| 14                       | 6.77 ±0.07 (10) | 7.40 ±0.09 (12) | 8.13 ±0.22 (7) | 6.87 ±0.09 (25) | 6.63 ±0.12 (8) | 6.89 ±0.09 (24) | 6.93 ±0.12 (14) | 7.03 ±0.14 (24) | 6.97 ±0.09 B ±0.05 A |
| 13                       | 7.40 ±0.14 (12) | 7.60 ±0.23 (6) | 8.17 ±0.21 (4) | 7.09 (15) | 7.10 ±0.16 (8) | 6.73 ±0.13 (12) | 7.00 ±0.12 (10) | 7.11 ±0.21 (19) | 6.95 ±0.07 ±0.14 (20) |
| 12                       | 5.37 ±0.23 (6) | 5.76 ±0.42 (2) | 6.33 ±0.11 (4) | 6.91 ±0.10 (15) | 6.52 ±0.10 (8) | 5.97 ±0.13 (16) | 6.73 ±0.12 (12) | 6.95 ±0.21 (19) | 6.82 ±0.07 ±0.15 (30) |
| 11                       | 8.06 ±0.12 (20) | 8.65 ±0.29 (14) | 10.17 ±0.16 (29) | 8.82 (31) | 9.16 ±0.10 (29) | 9.06 ±0.11 (21) | 9.71 ±0.10 (21) | 9.80 ±0.08 ±0.07 (22) | 8.37 ±0.09 ±0.10 (50) |
| Bb (14)                  | Aab (6)              | Aab (18)           | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          |
| 21                       | 8.13 ±0.10 (10) | 8.79 ±0.26 (20) | 9.34 ±0.18 (19) | 8.75 ±0.12 (32) | 8.51 ±0.13 (13) | 8.00 ±0.16 (18) | 8.28 ±0.10 (17) | 8.73 ±0.07 ±0.10 (13) | 8.37 ±0.09 ±0.10 (50) |
| Bb (14)                  | Aa (6)               | Aab (19)           | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          | Aab (29)          |
| 22                       | 5.82 ±0.10 (4) | 6.49 ±0.28 (7) | 6.38 ±0.14 (7) | 6.688 ±0.35 (9) | 6.47 ±0.15 (7) | 6.584 ±0.28 (11) | 6.59 ±0.21 (7) | 6.97 ±0.10 ±0.09 a ±0.10 (11) | 6.41 ±0.07 ±0.10 (31) |
| 23                       | 7.31 ±0.09 (8) | 8.16 ±0.31 (2) | 7.68 ±0.09 (11) | 8.02 ±0.31 (5) | 7.77 ±0.18 (11) | 7.94 ±0.19 (11) | 7.74 ±0.19 (11) | 7.75 ±0.09 ±0.06 B ±0.14 A |
| 24                       | 6.83 ±0.07 (9) | 7.33 ±0.16 (3) | 6.89 ±0.10 (12) | 7.13 ±0.19 (9) | 6.97 ±0.09 (12) | 6.67 ±0.11 (14) | 6.72 ±0.11 (14) | 6.68 ±0.12 ±0.08 a ±0.10 B ±0.10 A |
| 25                       | 6.25 ±0.18 (6) | 7.04 ±0.23 (2) | 6.49 ±0.13 (10) | 6.67 ±0.22 (6) | 6.56 ±0.12 (16) | 6.50 ±0.13 (16) | 6.77 ±0.16 (14) | 6.67 ±0.09 ±0.07 B ±0.10 A |
| 26                       | 9.94 ±0.12 (5) | 10.17 ±0.11 (15) | 10.17 ±0.09 (12) | 10.59 ±0.08 a | 10.34 ±0.13 (25) | 9.94 ±0.18 (25) | 10.13 ±0.12 (16) | 10.02 ±0.13 ±0.06 B ±0.08 A |

*The presence of the tooth in one or no patient.
†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 4. Comparison of the mesiodistal widths of the teeth according to the jaw with tooth agenesis and gender (continued).

| Patients with missing teeth in the upper jaw only | Patients with missing teeth in the lower jaw only | Patients with missing teeth in both the upper and lower jaws | Control | Total |
|--------------------------------------------------|--------------------------------------------------|----------------------------------------------------------|---------|-------|
| Female   | Male    | Mean and SD (n) | Female   | Male    | Mean and SD (n) | Female   | Male    | Mean and SD (n) | Female   | Male    | Mean and SD (n) |
|---------|---------|-----------------|---------|---------|-----------------|---------|---------|-----------------|---------|---------|-----------------|
| 36      | 10.68   | 11.17           | 10.82   | 10.64   | 11.03           | 10.80   | 10.58   | 10.87           | 10.69   | 10.85  | 10.90           |
|         | ±0.15   | ±0.25 (6)       | ±0.13   | ±0.17   | ±0.20           | ±0.13   | ±0.15   | ±0.20           | ±0.12   | ±0.11  | ±0.13           |
|         | (15)    | (21)            | (16)    | (11)    | (27)            | (26)    | (16)    | (42)            | (17)    | (14)   | (31)            |
| 35      | 6.73    | 6.94            | 6.82    | 6.94    | 7.30            | 7.01    | 6.76    | 6.95            | 6.91    | 6.99   | 7.38            |
|         | ±0.14   | ±0.41 (4)       | ±0.19   | ±0.15   | ±0.90           | ±0.18   | ±0.81   | ±0.25           | ±0.23   | ±0.14  | ±0.14           |
|         | (5)     | (10)            | (11)    | (27)    | (26)            | (16)    | (15)    | (38)            | (14)    | (13)   | (21)            |
| 34      | 6.91    | 7.73            | 7.11    | 6.92    | 7.21            | 6.99    | 6.56    | 6.97            | 6.75    | 6.93   | 7.15            |
|         | ±0.13   | ±0.05 (3)       | ±0.14   | ±0.10   | ±0.28           | ±0.10   | ±0.16   | ±0.14           | ±0.11   | ±0.11  | ±0.10           |
|         | (9)     | (12)            | (19)    | (25)    | (15)            | (13)    | (28)    | (14)            | (13)    | (21)   | (28)            |
| 33      | 5.61    | 6.65            | 6.66    | 6.69    | 6.96            | 6.76    | 6.28    | 6.58            | 6.42    | 6.70   | 7.11            |
|         | ±0.14   | ±0.55 (2)       | ±0.17   | ±0.06   | ±0.24           | ±0.08   | ±0.12   | ±0.08           | ±0.11   | ±0.15  | ±0.10           |
|         | (9)     | (11)            | (18)    | (25)    | (15)            | (13)    | (28)    | (14)            | (23)    | (23)   | (57)            |
| 32      | 5.64    | 5.95            | 5.73    | 5.88    | 6.05            | 5.94    | 5.61    | 5.44            | 5.55    | 5.97   | 5.97            |
|         | ±0.08   | ±0.20 (6)       | ±0.08   | ±0.13   | ±0.07           | ±0.10   | ±0.18   | ±0.08           | ±0.12   | ±0.10  | ±0.08           |
|         | (14)    | (20)            | (18)    | (11)    | (29)            | (22)    | (13)    | (35)            | (17)    | (13)   | (31)            |
| 31      | 5.18    | 5.46            | 5.26    | 5.40    | 5.72            | 5.53    | 5.09    | 5.50            | 5.215   | 5.468  | 5.30            |
|         | ±0.07   | ±0.12 (6)       | ±0.09   | ±0.09   | ±0.13           | ±0.09   | ±0.10   | ±0.08           | ±0.11   | ±0.10  | ±0.11           |
|         | (6)     | (20)            | (15)    | (10)    | (25)            | (23)    | (10)    | (33)            | (17)    | (14)   | (39)            |
| Aa      | 6.51    | 7.42            | 6.74    | 6.67    | 7.08            | 6.77    | 6.28    | 6.58            | 6.41    | 6.71   | 7.07            |
|         | ±0.12   | ±0.36 (3)       | ±0.17   | ±0.08   | ±0.33           | ±0.10   | ±0.14   | ±0.09           | ±0.15   | ±0.09  | ±0.10           |
|         | (9)     | (12)            | (18)    | (24)    | (17)            | (13)    | (30)    | (14)            | (23)    | (14)   | (58)            |
| 44      | 6.94    | 7.89            | 7.16    | 6.91    | 7.35            | 7.02    | 6.69    | 6.93            | 6.80    | 6.91   | 6.99            |
|         | ±0.09   | ±0.05 (3)       | ±0.13   | ±0.10   | ±0.28           | ±0.11   | ±0.13   | ±0.18           | ±0.11   | ±0.10  | ±0.08           |
|         | (10)    | (13)            | (18)    | (24)    | (14)            | (12)    | (26)    | (14)            | (23)    | (21)   | (30)            |
| 45      | 6.61    | 7.48            | 6.90    | 6.64    | 6.29            | 6.62    | 6.82    | 6.91            | 7.05    | 7.25   | 7.12            |
|         | ±0.21   | ±0.11 (3)       | ±0.20   | ±0.21   | ±0.18           | ±0.12   | ±0.28   | ±0.24           | ±0.12   | ±0.11  | ±0.10           |
|         | (6)     | (13)            | (21)    | (26)    | (17)            | (14)    | (31)    | (30)            | (17)    | (21)   | (26)            |
| 46      | 10.61   | 11.21           | 10.78   | 10.65   | 11.07           | 10.82   | 10.42   | 10.59           | 10.49   | 10.80  | 10.87           |
|         | ±0.15   | ±0.29 (6)       | ±0.15   | ±0.15   | ±0.20           | ±0.13   | ±0.14   | ±0.25           | ±0.13   | ±0.13  | ±0.09           |
|         | (15)    | (21)            | (18)    | (12)    | (30)            | (26)    | (16)    | (42)            | (17)    | (14)   | (31)            |

*The presence of the tooth in one or no patient.
†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 5. Comparison of the buccopalatal/labiolingual depths of the teeth according to the jaw with tooth agenesis and gender.

| Patients with missing teeth in the upper jaw only | Patients with missing teeth in the lower jaw only | Patients with missing teeth in both the upper and lower jaws | Control | Total |
|-------------------------------------------------|-------------------------------------------------|----------------------------------------------------------|---------|-------|
| Female Mean and SD (n)                          | Male Mean and SD (n)                            | Total                                                   |         |       |
| 16                                              |                                                 |                                                         |         |       |
| Female                                           | Male                                           | Total                                                   |         |       |
| ±0.12 ±0.16 (6)                                  | ±0.12 ±0.16 (9)                                 | ±0.12 ±0.16 (9)                                         |         |       |
| 15                                              |                                                 |                                                         |         |       |
| ±0.28 ±0.31 (3)                                  | ±0.32 ±0.34 (6)                                 | ±0.18 ±0.18 (2)                                         |         |       |
| 14                                              |                                                 |                                                         |         |       |
| ±0.18 (8) ±0.28 (2)                              | ±0.26 ±0.22 (7)                                 | ±0.21 ±0.21 (2)                                         |         |       |
| 13                                              |                                                 |                                                         |         |       |
| ±0.37 ±0.33 (4)                                  | ±0.34 ±0.36 (4)                                 | ±0.33 ±0.36 (4)                                         |         |       |
| 12                                              |                                                 |                                                         |         |       |
| ±0.30 (2) ±0.30 (3)                              | ±0.38 ±0.38 (6)                                 | ±0.20 ±0.20 (2)                                         |         |       |
| 11                                              |                                                 |                                                         |         |       |
| ±0.18 ±0.18 (6)                                  | ±0.18 ±0.18 (19)                                | ±0.18 ±0.18 (19)                                        |         |       |
| 21                                              |                                                 |                                                         |         |       |
| ±0.18 ±0.18 (19)                                 | ±0.18 ±0.18 (19)                                | ±0.18 ±0.18 (19)                                        |         |       |
| 22                                              |                                                 |                                                         |         |       |
| ±0.26 ±0.26 (19)                                 | ±0.26 ±0.26 (24)                                | ±0.23 ±0.23 (2)                                         |         |       |
| 23                                              |                                                 |                                                         |         |       |
| ±0.25 ±0.25 (28)                                 | ±0.25 ±0.25 (28)                                | ±0.25 ±0.25 (28)                                        |         |       |
| 24                                              |                                                 |                                                         |         |       |
| ±0.22 ±0.22 (7)                                  | ±0.22 ±0.22 (7)                                 | ±0.22 ±0.22 (7)                                         |         |       |
| 25                                              |                                                 |                                                         |         |       |
| ±0.21 ±0.21 (5)                                  | ±0.21 ±0.21 (5)                                 | ±0.21 ±0.21 (5)                                         |         |       |
| 26                                              |                                                 |                                                         |         |       |
| ±0.13 ±0.13 (12)                                 | ±0.13 ±0.13 (12)                                | ±0.13 ±0.13 (12)                                        |         |       |

*The presence of the tooth in one or no patient.
†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 5. Comparison of the buccopalatal/labiolingual depths of the teeth according to the jaw with tooth agenesis and gender (continued).

| Patients with missing teeth only in the upper jaw | Patients with missing teeth only in the lower jaw | Patients with missing teeth in both the upper and lower jaws | Control | Total |
|-----------------------------------------------|-----------------------------------------------|------------------------------------------------|----------|-------|
| Female Mean and SD (n)                        | Male Mean and SD (n)                           | Total Mean and SD (n)                            |          |       |
| 36                                            | 10.60 ± 0.14 (13)                             | 10.79 ± 0.19 (19)                              | 10.66 ± 0.11 ab (17) | 10.68 ± 0.12 (24) |
| 35                                            | 8.36 ± 0.16 (9)                               | 8.86 ± 0.19 ab (11)                            | 8.58 ± 0.24 (15)     | 8.15 ± 0.20 (20)  |
| 34                                            | 7.78 ± 0.14 (8)                               | 8.72 ± 0.17 ab (10)                            | 8.04 ± 0.13 ab (12)  | 7.94 ± 0.11 ab (13) |
| 33                                            | 6.94 ± 0.26 (10)                              | 7.28 ± 0.21 ab (12)                            | 7.00 ± 0.21 ab (14)  | 6.90 ± 0.17 (16)  |
| 32                                            | 6.11 ± 0.13 (18)                              | 6.33 ± 0.10 ab (20)                            | 6.18 ± 0.17 ab (22)  | 6.20 ± 0.12 (24)  |
| 31                                            | 5.74 ± 0.14 (14)                              | 5.87 ± 0.15 ab (16)                            | 5.87 ± 0.21 ab (18)  | 5.80 ± 0.14 (20)  |
| 41                                            | 5.77 ± 0.14 (18)                              | 6.23 ± 0.16 (20)                               | 5.91 ± 0.17 (22)     | 5.87 ± 0.10 (24)  |
| 42                                            | 6.11 ± 0.12 (20)                              | 6.31 ± 0.18 (22)                               | 6.17 ± 0.20 (24)     | 6.17 ± 0.14 (26)  |
| 43                                            | 6.91 ± 0.21 (22)                              | 7.02 ± 0.28 (24)                               | 6.94 ± 0.16 ab (26)  | 6.99 ± 0.11 ab (27) |
| 44                                            | 7.75 ± 0.10 (18)                              | 8.61 ± 0.18 (20)                               | 7.99 ± 0.14 ab (22)  | 7.90 ± 0.13 ab (24) |
| 45                                            | 8.29 ± 0.17 (17)                              | 9.30 ± 0.30 ab (20)                            | 8.63 ± 0.22 (22)     | 8.44 ± 0.09 (24)  |
| 46                                            | 10.55 ± 0.10 (21)                             | 10.93 ± 0.12 (23)                              | 10.66 ± 0.10 ab (25) | 10.70 ± 0.10 (27) |

*The presence of the tooth in one or no patient.
†Capital letters indicate differences between means of genders, whereas small letters indicate differences between the group means.
Table 6. Comparison of the cervicoincisal/cervicoocclusal heights of the teeth according to the jaw with tooth agenesis and gender.

|                | Patients with missing teeth in the upper jaw only | Patients with missing teeth in the lower jaw only | Patients with missing teeth in both the upper and lower jaws | Control | Total |
|----------------|--------------------------------------------------|--------------------------------------------------|----------------------------------------------------------|---------|-------|
|                | Female Mean and SD (n) | Male Mean and SD (n) | Total Female Mean and SD (n) | Total Male Mean and SD (n) | Total Female Mean and SD (n) | Total Male Mean and SD (n) | Total Female Mean and SD (n) | Total Male Mean and SD (n) |
| 16             | 5.75 ±0.29 (15) | 5.93 ±0.26 (21) | 5.91 ±0.19 (13) | 5.92 ±0.11 (32) | 5.37 ±0.14 (24) | 5.38 ±0.18 (15) | 5.45 ±0.19 (39) | 5.88 ±0.12 (31) | 5.71 ±0.10 (31) | 5.80 ±0.07 (25) | 5.75 ±0.05 (25) |
| 15             | 6.46 ±0.20 (7) | 6.04 ±0.20 (12) | 5.78 ±0.21 (11) | 5.18 ±0.26 (6) | 5.31 ±0.31 (5) | 5.31 ±0.28 (5) | 5.73 ±0.20 (17) | 5.86 ±0.23 (14) | 5.68 ±0.19 (14) | 5.76 ±0.12 (19) | 5.67 ±0.10 (23) |
| 14             | 8.03 ±0.29 (12) | 7.12 ±0.25 (10) | 6.85 ±0.18 (16) | 7.30 ±0.29 (6) | 6.62 ±0.24 (9) | 6.68 ±0.25 (8) | 6.65 ±0.19 (17) | 6.89 ±0.20 (14) | 7.36 ±0.19 (14) | 7.07 ±0.14 (23) | 6.83 ±0.10 (25) |
| 13             | 8.50 ±0.22 (5) | 6.69 ±0.22 (5) | 8.63 ±0.24 (11) | 8.55 ±0.20 (4) | 5.30 ±0.28 (8) | 5.35 ±0.35 (19) | 6.80 ±0.24 (15) | 8.40 ±0.24 (6) | 9.26 ±0.23 (6) | 8.71 ±0.20 (15) | 8.53 ±0.15 (23) |
| 12             | 6.39 ±0.13 (2) | 7.37 ±0.16 (3) | 7.51 ±0.25 (8) | 7.52 ±0.13 (6) | 7.21 ±0.22 (7) | 7.50 ±0.27 (11) | 7.32 ±0.15 (12) | 7.36 ±0.19 (15) | 8.03 ±0.18 (14) | 7.62 ±0.14 (14) | 7.28 ±0.10 (23) |
| 11             | 9.09 ±0.25 (16) | 9.09 ±0.25 (16) | 9.07 ±0.26 (16) | 9.77 ±0.13 (6) | 8.72 ±0.16 (18) | 8.93 ±0.22 (18) | 8.95 ±0.19 (27) | 9.01 ±0.20 (17) | 9.18 ±0.20 (17) | 9.08 ±0.19 (17) | 8.91 ±0.15 (27) |
| 21             | 9.53 ±0.23 (13) | 9.21 ±0.23 (12) | 9.18 ±0.19 (19) | 9.81 ±0.25 (11) | 8.75 ±0.16 (27) | 8.44 ±0.22 (24) | 8.98 ±0.14 (24) | 9.06 ±0.20 (27) | 9.28 ±0.14 (24) | 9.15 ±0.14 (24) | 8.98 ±0.10 (24) |
| 22             | 7.97 ±0.11 (12) | 7.45 ±0.11 (12) | 7.45 ±0.18 (19) | 7.91 ±0.11 (11) | 7.20 ±0.24 (27) | 7.70 ±0.29 (27) | 7.41 ±0.23 (27) | 7.71 ±0.20 (27) | 8.08 ±0.17 (27) | 7.86 ±0.18 (27) | 7.44 ±0.18 (27) |
| 23             | 8.39 ±0.17 (6) | 8.12 ±0.17 (6) | 8.76 ±0.13 (13) | 8.88 ±0.46 (6) | 8.72 ±0.31 (9) | 8.29 ±0.41 (9) | 8.57 ±0.22 (9) | 8.39 ±0.28 (9) | 9.65 ±0.38 (9) | 8.83 ±0.30 (9) | 8.54 ±0.24 (9) |
| 24             | 7.34 ±0.17 (6) | 7.05 ±0.17 (6) | 6.94 ±0.19 (13) | 7.40 ±0.30 (7) | 7.08 ±0.23 (13) | 6.64 ±0.30 (13) | 6.79 ±0.26 (13) | 6.88 ±0.21 (13) | 7.57 ±0.27 (13) | 7.15 ±0.15 (13) | 6.90 ±0.10 (13) |
| 25             | 6.64 ±0.19 (12) | 6.12 ±0.22 (12) | 6.05 ±0.19 (13) | 6.25 ±0.30 (7) | 6.13 ±0.23 (13) | 4.97 ±0.26 (13) | 5.45 ±0.21 (13) | 6.06 ±0.15 (13) | 6.52 ±0.15 (13) | 6.26 ±0.10 (13) | 6.07 ±0.05 (13) |
| 26             | 5.99 ±0.17 (12) | 5.84 ±0.17 (12) | 6.05 ±0.16 (19) | 6.02 ±0.20 (12) | 5.60 ±0.14 (11) | 5.72 ±0.18 (11) | 5.65 ±0.12 (12) | 5.80 ±0.12 (14) | 5.78 ±0.12 (14) | 5.80 ±0.12 (14) | 5.80 ±0.08 (14) |

*The presence of the tooth in one or no patient.
†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 6. Comparison of the cervicoincisal/cervicoocclusal heights of the teeth according to the jaw with tooth agenesis and gender (continued).

| Patients with missing teeth in the upper jaw only | Patients with missing teeth in the lower jaw only | Patients with missing teeth in both the upper and lower jaws | Control | Total |
|--------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------|---------|-------|
| Female Mean and SD (n)                           | Female Mean and SD (n)                           | Female Mean and SD (n)                                    |         |       |
| 36                                               | 36                                               | 36                                                        | 36      | 72    |
| 6.21 ±0.19                                       | 6.24 ±0.29                                       | 6.53 ±0.13                                                | 6.08 ±0.15 | 6.23 ±0.17 | 6.22 ±0.22 | 6.24 ±0.69 |
| (14) (6)                                         | (20) (17)                                        | (11) (28)                                                | (15) (39) | (17) (31) | (14) (21) | (28) (72) |
| 35                                               | 35                                               | 35                                                        | 35      | 70    |
| 6.63 ±0.35                                       | 6.85 ±0.40                                       | 6.73 ±0.23 (9)                                            | 7.02 ±0.56 (2) | 6.57 ±0.22 | 6.86 ±0.28 | 6.77 ±0.82 (20) |
| (4) (5)                                          | (10) (6)                                        | (26) (14)                                                | (27) (14) | (26) (19) | (21) (8) | (28) (70) |
| 34                                               | 34                                               | 34                                                        | 34      | 68    |
| 7.32 ±0.25                                       | 8.20 ±0.41                                       | 7.56 ±0.29                                                | 7.39 ±0.19 | 7.60 ±0.19 | 8.37 ±0.19 | 7.90 ±0.25 |
| (8) (3)                                          | (17) (6)                                        | (23) (14)                                                | (26) (14) | (26) (19) | (21) (8) | (28) (68) |
| 33                                               | 33                                               | 33                                                        | 33      | 66    |
| 8.69 ±0.31                                       | 9.33 ±0.61                                       | 8.82 ±0.30                                                | 8.54 ±0.22 | 8.71 ±0.23 | 9.82 ±0.31 | 9.11 ±0.91 (27) |
| (2) (8)                                          | (17) (16)                                       | (5) (12)                                                | (27) (14) | (27) (14) | (22) (8) | (24) (27) |
| 32                                               | 32                                               | 32                                                        | 32      | 64    |
| 7.92 ±0.23                                       | 8.03 ±0.24                                       | 7.96 ±0.21                                                | 7.66 ±0.18 | 7.99 ±0.20 | 8.08 ±0.25 | 8.03 ±0.76 (39) |
| (13) (6)                                         | (18) (10)                                       | (28) (21)                                                | (33) (17) | (28) (11) | (29) (8) | (28) (64) |
| 31                                               | 31                                               | 31                                                        | 31      | 62    |
| 7.95 ±0.20                                       | 8.53 ±0.16                                       | 8.12 ±0.20                                                | 7.72 ±0.16 | 8.11 ±0.20 | 8.17 ±0.25 | 8.84 ±0.71 (28) |
| (14) (6)                                         | (10) (9)                                        | (23) (22)                                                | (30) (17) | (31) (14) | (31) (8) | (37) (62) |
| 41                                               | 41                                               | 41                                                        | 41      | 60    |
| 7.84 ±0.20                                       | 8.63 ±0.30                                       | 8.08 ±0.17                                                | 7.63 ±0.15 | 8.13 ±0.20 | 8.16 ±0.25 | 8.42 ±0.76 (20) |
| (14) (6)                                         | (20) (14)                                       | (9) (24)                                                | (28) (24) | (32) (17) | (31) (14) | (28) (60) |
| 42                                               | 42                                               | 42                                                        | 42      | 58    |
| 7.94 ±0.23                                       | 8.41 ±0.34                                       | 8.09 ±0.17                                                | 7.54 ±0.18 | 8.15 ±0.18 | 8.14 ±0.18 | 7.99 ±0.84 (28) |
| (13) (6)                                         | (18) (10)                                       | (28) (22)                                                | (32) (17) | (32) (14) | (32) (8) | (38) (58) |
| 43                                               | 43                                               | 43                                                        | 43      | 56    |
| 8.92 ±0.31                                       | 8.95 ±0.51                                       | 8.93 ±0.22                                                | 8.53 ±0.21 | 8.74 ±0.23 | 9.77 ±0.25 | 9.12 ±0.91 (28) |
| (8) (3)                                          | (11) (17)                                       | (5) (22)                                                | (29) (14) | (29) (14) | (22) (8) | (28) (56) |
| 44                                               | 44                                               | 44                                                        | 44      | 54    |
| 7.58 ±0.27                                       | 8.12 ±0.44                                       | 7.73 ±0.20                                                | 7.18 ±0.23 | 7.59 ±0.26 | 8.23 ±0.17 | 8.45 ±0.78 (20) |
| (8) (3)                                          | (11) (17)                                       | (6) (23)                                                | (24) (13) | (24) (14) | (23) (8) | (26) (54) |
| 45                                               | 45                                               | 45                                                        | 45      | 52    |
| 6.69 ±0.31                                       | 7.09 ±0.44                                       | 6.82 ±0.15                                                | 6.39 ±0.14 | 6.31 ±0.16 | 7.10 ±0.18 | 6.87 ±0.78 (17) |
| (6) (5)                                          | (3) (21)                                        | (13) (19)                                                | (32) (24) | (26) (17) | (21) (5) | (26) (52) |
| 46                                               | 46                                               | 46                                                        | 46      | 49    |
| 6.45 ±0.17                                       | 6.65 ±0.27                                       | 6.51 ±0.12                                                | 5.94 ±0.14 | 6.31 ±0.18 | 6.40 ±0.18 | 6.26 ±0.40 (20) |
| (15) (6)                                         | (21) (19)                                       | (13) (32)                                                | (38) (24) | (31) (17) | (31) (8) | (31) (49) |

*The presence of the tooth in one or no patient.
†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 7. Comparison of the mesiodistal widths of the teeth according to the region with tooth agenesis and gender.

| Patients with missing teeth in the anterior region only | Patients with missing teeth in the posterior region only | Patients with missing teeth in the anterior and posterior regions | Control | Total |
|--------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------|--------|-------|
| Female | Male | SD | n | Female | Male | SD | n | Female | Male | SD | n | Female | Male | SD | n | Female | Male | SD | n | Female | Male | SD | n | Female | Male | SD | n | Female | Male | SD | n |
| 16 | 10.05 | 10.38 | 10.18 | 10.19 | 10.43 | 10.27 | 9.77 | 10.19 | 9.92 | 10.29 | 10.27 | 10.28 | 10.07 | 10.31 |
| ±0.11 | ±0.12 | ±0.09 | ±0.11 | ±0.13 | ±0.09 | ±0.14 | ±0.22 | ±0.12 | ±0.12 | ±0.14 | ±0.09 | ±0.07 | B | ±0.08 A |
| (15) | (10) | (25) | (24) | (12) | (36) | (22) | (13) | (35) | (17) | (14) | (31) | (78) | (49) |
| 15 | 6.29 | 6.86 | 6.52 | 6.53 | 6.73 | 6.61 | 6.24 | 6.52 | 6.43 | 6.73 | 6.90 | 6.80 | 6.53 | 6.79 |
| ±0.14 | ±0.12 | ±0.12 | ±0.14 (8) | ±0.32 | ±0.31 | ±0.30 | ±0.51 | ±0.34 (6) | ±0.10 | ±0.14 (9) | ±0.08 | ±0.07 (32) | ±0.12 |
| (9) | (6) | (15) | (5) | (13) | (2) | (4) | (13) | (13) | (22) | (24) |
| 14 | 6.75 | 7.00 | 6.83 | 6.85 | 7.04 | 6.88 | 6.69 | 6.88 | 6.77 | 6.93 | 7.03 | 6.97 | 6.81 | 6.99 |
| ±0.08 | ±0.18 | ±0.08 | ±0.11 | ±0.27 | ±0.10 | ±0.07 | ±0.17 | ±0.08 | ±0.12 | ±0.14 | ±0.09 | ±0.05 (52) | ±0.08 |
| (13) | (6) | (19) | (17) | (5) | (22) | (8) | (6) | (14) | (14) | (10) | (24) | (27) |
| 13 | 7.50 | 7.55 | 7.51 | 7.72 | 7.81 | 7.74 | 7.36 | 7.53 | 7.46 | 7.81 | 7.95 | 7.86 | 7.64 | 7.72 |
| ±0.15 | ±0.20 | ±0.12 | ±0.11 | ±0.30 | ±0.10 | ±0.14 | ±0.26 | ±0.16 | ±0.12 | ±0.21 (7) | ±0.11 (19) | ±0.07 (36) | ±0.14 |
| (8) | (2) | (10) | (10) | (3) | (13) | (6) | (8) | (14) | (12) | (20) |
| 12 | 6.42 | 6.07 | 6.29 | 6.22 | 7.09 | 6.46 | 6.02 | 5.94 | 5.98 | 6.73 | 6.95 | 6.82 | 6.38 | 6.63 |
| ±0.37 | ±0.26 | ±0.25 (8) | ±0.14 | Ba (5) | ±0.27 | ±0.14 | ±0.24 | ±0.32 | ±0.20 | ±0.10 | ±0.15 | ±0.09 | ±0.09 (49) | ±0.15 |
| (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) |

†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 7. Comparison of the mesiodistal widths of the teeth according to the region with tooth agenesis and gender (continued).

| Patients with missing teeth only on the anterior region | Patients with missing teeth only on the posterior region | Patients with missing teeth both on the anterior and posterior regions | Control | Total |
|--------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------|--------|-------|
| Female Mean and SD (n)                                 | Male Mean and SD (n)                                    | Total Mean and SD (n)                                          |        |       |
| Female Mean and SD (n)                                 | Male Mean and SD (n)                                    | Total Mean and SD (n)                                          |        |       |

*The presence of the tooth in one or no patient.
†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 8. Comparison of the buccopalatal/labiolingual depths of the teeth according to the region with tooth agenesis and gender.

| Patients with missing teeth in the anterior region only | Patients with missing teeth in the posterior region only | Patients with missing teeth in the anterior and posterior regions | Control | Total |
|---------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------|--------|-------|
| Female Mean and SD (n)                                   | Female Mean and SD (n)                                   | Female Mean and SD (n)                                         | Female Mean and SD (n) | Female Mean and SD (n) |
| 16 11.24 ± 0.14 (10)                                      | 11.81 ± 0.16 (25)                                       | 11.46 ± 0.12 (21)                                             | 11.97 ± 0.21 (22)     | 11.42 ± 0.14 (33)     |
| 15 8.88 ± 0.24 (8)                                       | 9.72 ± 0.34 (14)                                        | 9.24 ± 0.22 (10)                                             | 9.00 ± 0.17 (2)       | 9.35 ± 0.22 (11)     |
| 14 8.94 ± 0.15 (10)                                      | 9.43 ± 0.37 (16)                                        | 9.12 ± 0.17 (17)                                             | 9.72 ± 0.48 (6)       | 9.09 ± 0.19 (21)     |
| 13 7.84 ± 0.32 (7)                                       | 7.43 ± 0.53 (10)                                        | 7.74 ± 0.26 (9)                                              | 8.95 ± 0.54 (3)       | 8.11 ± 0.21 (13)     |
| 12 6.04 ± 0.37 (5)                                       | 6.18 ± 0.07 (8)                                         | 6.09 ± 0.22 (9)                                              | 6.07 ± 0.16 (20)      | 6.28 ± 0.14 (27)     |
| 11 6.67 ± 0.20 (14)                                      | 7.07 ± 0.11 (22)                                        | 6.82 ± 0.14 (22)                                             | 7.12 ± 0.31 (31)      | 6.96 ± 0.15 (31)     |
| 21 6.66 ± 0.19 (15)                                      | 7.07 ± 0.14 (23)                                        | 6.80 ± 0.18 (23)                                             | 7.17 ± 0.32 (35)      | 6.97 ± 0.16 (35)     |
| 22 6.18 ± 0.22 (6)                                       | 6.57 ± 0.41 (10)                                        | 6.34 ± 0.21 (10)                                             | 6.82 ± 0.14 (20)      | 6.34 ± 0.13 (27)     |
| 23 7.66 ± 0.27 (7)                                       | 7.80 ± 0.16 (10)                                        | 7.71 ± 0.19 (10)                                             | 7.79 ± 0.15 (13)      | 7.97 ± 0.18 (16)     |
| 24 8.77 ± 0.54 (10)                                      | 9.54 ± 0.37 (15)                                        | 9.03 ± 0.20 (15)                                             | 8.92 ± 0.42 (18)      | 9.12 ± 0.19 (23)     |
| 25 8.79 ± 0.25 (12)                                      | 9.80 ± 0.26 (6)                                         | 9.25 ± 0.23 (4)                                              | 9.90 ± 0.40 (4)       | 9.17 ± 0.20 (6)     |
| 26 11.21 ± 0.15 (14)                                     | 11.81 ± 0.16 (24)                                       | 11.46 ± 0.12 (21)                                            | 11.05 ± 0.13 (19)     | 11.32 ± 0.13 (21)   |

*Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 8. Comparison of the buccopalatal/labiolingual depths of the teeth according to the region with tooth agenesis and gender (continued).

| Patients with missing teeth in the anterior region only | Patients with missing teeth in the posterior region only | Patients with missing teeth in the anterior and posterior regions | Control | Total |
|--------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------|---------|-------|
| Female Mean and SD (n)                                  | Female Mean and SD (n)                                  | Female Mean and SD (n)                                        | Female Mean and SD (n) | Female Mean and SD (n) |
|--------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------|---------|-------|
| 36                                                      | 10.60                                                   | 8.45                                                          | 24.76   | 10.55 |
| ±0.13                                                  | ±0.12                                                  | ±0.16                                                         | ±0.08   | ±0.06 |
| (14)                                                   | (10)                                                   | (24)                                                          | (31)    | (30)  |
| 35                                                      | 8.17                                                    | 4.90                                                          | 13.14   | 9.59  |
| ±0.22                                                  | ±0.23                                                  | ±0.20                                                         | ±0.20   | ±0.20 |
| (9)                                                    | (5)                                                    | (14)                                                          | (5)     | (4)   |
| 34                                                      | 7.65                                                    | 4.65                                                          | 12.41   | 8.28  |
| ±0.17                                                  | ±0.16                                                  | ±0.16                                                         | ±0.16   | ±0.16 |
| (10)                                                   | (6)                                                    | (4)                                                           | (4)     | (4)   |
| 33                                                      | 6.94                                                    | 7.01                                                          | 13.98   | 7.28  |
| ±0.16                                                  | ±0.14                                                  | ±0.12                                                          | ±0.12   | ±0.12 |
| (9)                                                    | (4)                                                    | (18)                                                          | (21)    | (21)  |
| 32                                                      | 6.02                                                    | 6.12                                                          | 12.14   | 6.12  |
| ±0.13                                                  | ±0.12                                                  | ±0.10                                                          | ±0.10   | ±0.10 |
| (14)                                                   | (7)                                                    | (21)                                                          | (21)    | (21)  |
| 31                                                      | 5.93                                                    | 6.24                                                          | 12.17   | 5.94  |
| ±0.12                                                  | ±0.18                                                  | ±0.10                                                          | ±0.10   | ±0.10 |
| (11)                                                   | (4)                                                    | (15)                                                          | (15)    | (15)  |
| 41                                                      | 5.92                                                    | 6.09                                                          | 12.01   | 5.91  |
| ±0.13                                                  | ±0.17                                                  | ±0.10                                                          | ±0.10   | ±0.10 |
| (11)                                                   | (6)                                                    | (6)                                                           | (6)     | (6)   |
| 42                                                      | 6.00                                                    | 6.16                                                          | 12.16   | 6.13  |
| ±0.13                                                  | ±0.19                                                  | ±0.11                                                          | ±0.11   | ±0.11 |
| (14)                                                   | (7)                                                    | (21)                                                          | (21)    | (21)  |
| 43                                                      | 6.92                                                    | 7.19                                                          | 14.04   | 7.28  |
| ±0.12                                                  | ±0.13                                                  | ±0.09                                                          | ±0.09   | ±0.09 |
| (10)                                                   | (5)                                                    | (19)                                                          | (19)    | (19)  |
| 44                                                      | 7.65                                                    | 8.41                                                          | 16.06   | 8.17  |
| ±0.17                                                  | ±0.14                                                  | ±0.15                                                          | ±0.15   | ±0.15 |
| (10)                                                   | (6)                                                    | (16)                                                          | (16)    | (16)  |
| 45                                                      | 8.11                                                    | 9.03                                                          | 17.15   | 8.75  |
| ±0.19                                                  | ±0.31                                                  | ±0.20                                                          | ±0.20   | ±0.20 |
| (9)                                                    | (5)                                                    | (14)                                                          | (14)    | (14)  |
| 46                                                      | 10.57                                                   | 10.89                                                         | 21.46   | 10.84 |
| ±0.10                                                  | ±0.11                                                  | ±0.08                                                          | ±0.08   | ±0.08 |
| (15)                                                   | (9)                                                    | (24)                                                          | (24)    | (24)  |

*The presence of the tooth in one or no patient.
†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 9. Comparison of cervicicosal/cervicoocclusal heights of the teeth according to the region with tooth agenesis and gender.

| Patients with missing teeth in the anterior region only | Patients with missing teeth in the posterior region only | Patients with missing teeth in the anterior and posterior regions | Control | Total |
|--------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------|--------|-------|
| Female Mean and SD (n) | Male Mean and SD (n) | Total | Female Mean and SD (n) | Male Mean and SD (n) | Total | Female Mean and SD (n) | Male Mean and SD (n) | Total | Female Mean and SD (n) |
| 16 | 5.87 ±0.18 (15) | 5.936 ±0.224 (10) | 5.90 ±0.15 (25) | 5.72 ±0.16 (21) | 5.85 ±0.21 (12) | 5.77 ±0.12 (33) | 5.44 ±0.15 (22) | 5.54 ±0.21 (12) | 5.47 ±0.12 (34) | 5.88 ±0.17 (17) | 5.71 ±0.19 (14) | 5.80 ±0.12 (7) | 5.75 ±0.07 (48) |
| 15 | 5.62 ±0.25 (8) | 6.11 ±0.28 (6) | 5.83 ±0.17 (14) | 5.70 ±0.26 (7) | 6.51 ±0.35 (4) | 5.99 ±0.19 (11) | 5.90 ±0.49 (2) | 5.44 ±0.35 (6) | 5.59 ±0.24 (12) | 5.86 ±0.20 (2) | 6.38 ±0.23 (9) | 6.08 ±0.18 (3) | 5.76 ±0.19 (23) |
| 14 | 6.99 ±0.22 (17) | 7.10 ±0.29 (16) | 7.03 ±0.19 (16) | 6.67 ±0.17 (17) | 7.11 ±0.35 (4) | 6.86 ±0.18 (21) | 6.86 ±0.29 (6) | 6.65 ±0.29 (6) | 6.75 ±0.20 (12) | 6.89 ±0.19 (2) | 7.36 ±0.24 (9) | 7.07 ±0.19 (14) | 6.83 ±0.14 (25) |
| 13 | 8.59 ±0.29 (7) | 8.08 ±0.55 (2) | 8.48 ±0.23 (9) | 8.76 ±0.24 (10) | 8.85 ±0.45 (3) | 8.78 ±0.20 (21) | 8.28 ±0.32 (6) | 8.52 ±0.35 (5) | 8.39 ±0.20 (13) | 8.40 ±0.23 (6) | 9.26 ±0.32 (6) | 8.71 ±0.23 (2) | 8.53 ±0.23 (25) |
| 12 | 7.25 ±0.32 (5) | 7.13 ±0.42 (3) | 7.20 ±0.18 (8) | 7.32 ±0.16 (20) | 8.02 ±0.27 (7) | 7.50 ±0.14 (27) | 7.02 ±0.27 (6) | 7.40 ±0.30 (6) | 7.20 ±0.20 (13) | 7.36 ±0.19 (11) | 8.03 ±0.19 (11) | 7.62 ±0.09 (14) | 7.78 ±0.18 (25) |
| 11 | 9.15 ±0.22 (14) | 9.44 ±0.30 (8) | 9.26 ±0.15 (22) | 8.85 ±0.18 (22) | 9.81 ±0.28 (9) | 9.13 ±0.18 (31) | 8.73 ±0.18 (22) | 9.35 ±0.23 (35) | 8.96 ±0.16 (12) | 9.01 ±0.20 (22) | 9.06 ±0.20 (22) | 8.91 ±0.24 (14) | 9.08 ±0.24 (25) |
| 21 | 9.19 ±0.19 (15) | B 9.55 ±0.27 (9) | B 9.32 ±0.15 (24) | 9.89 ±0.17 (22) | 9.85 ±0.27 (9) | 9.54 ±0.17 (31) | 9.24 ±0.17 (22) | 9.43 ±0.23 (35) | 9.01 ±0.15 (12) | 9.06 ±0.20 (22) | 9.28 ±0.24 (12) | 8.98 ±0.14 (29) | 9.26 ±0.14 (76) |
| 22 | 7.44 ±0.32 (6) | 7.70 ±0.39 (4) | 7.54 ±0.15 (10) | 7.35 ±0.17 (20) | 7.91 ±0.29 (7) | 7.50 ±0.13 (27) | 7.13 ±0.32 (10) | 7.85 ±0.29 (6) | 7.51 ±0.30 (6) | 7.71 ±0.30 (6) | 8.08 ±0.24 (9) | 7.86 ±0.18 (17) | 7.44 ±0.08 (25) |
| 23 | 8.59 ±0.89 (7) | 8.23 ±0.82 (2) | 8.48 ±0.84 (10) | 8.61 ±0.25 (14) | 9.13 ±0.54 (3) | 8.70 ±0.23 (17) | 8.95 ±0.35 (17) | 9.42 ±0.25 (2) | 8.28 ±0.24 (17) | 9.06 ±0.24 (11) | 8.95 ±0.28 (11) | 8.30 ±0.38 (6) | 8.02 ±0.30 (39) |
| 24 | 7.07 ±0.70 (10) | 7.53 ±0.35 (5) | 7.23 ±0.16 (15) | 6.81 ±0.19 (18) | 7.34 ±0.35 (5) | 6.93 ±0.16 (23) | 6.95 ±0.28 (8) | 6.56 ±0.30 (7) | 6.77 ±0.29 (15) | 6.88 ±0.21 (14) | 7.57 ±0.26 (15) | 6.75 ±0.06 (23) | 6.90 ±0.07 (26) |
| 25 | 5.72 ±0.57 (6) | 6.31 ±0.30 (10) | 5.99 ±0.16 (13) | 6.31 ±0.24 (6) | 6.23 ±0.37 (6) | 6.29 ±0.26 (16) | 6.26 ±0.52 (7) | 4.45 ±0.37 (6) | 5.06 ±0.51 (15) | 6.06 ±0.21 (12) | 6.62 ±0.21 (12) | 6.26 ±0.21 (6) | 6.07 ±0.21 (32) |
| 26 | 5.86 ±0.08 (14) | 6.03 ±0.22 (10) | 5.93 ±0.15 (24) | 5.94 ±0.15 (21) | 5.95 ±0.21 (11) | 5.94 ±0.16 (32) | 5.59 ±0.21 (19) | 5.66 ±0.12 (13) | 5.62 ±0.17 (31) | 5.80 ±0.18 (17) | 5.80 ±0.12 (31) | 5.80 ±0.08 (14) | 5.80 ±0.08 (46) |

†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.
Table 9. Comparison of the cervicoincisal/cervicoocclusal heights of the teeth according to the regions with tooth agenesis and gender (continued).

|                  | Patients with missing teeth in the anterior region only | Patients with missing teeth in the posterior region only | Patients with missing teeth in the anterior and posterior regions | Control  | Total |
|------------------|--------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------|----------|-------|
|                  | Female Mean and SD (n)                                 | Male Mean and SD (n)                                    | Total                                                          | Female Mean and SD (n)                           | Total |
|                  | ±0.19                                                  | ±0.23                                                  | ±0.12                                                          | ±0.16     | ±0.23 |
|                  | (10)                                                   | (15)                                                   | (11)                                                           | (18)      | (22)  |
|                  | ±0.27 (9)                                              | ±0.37                                                  | ±0.23                                                          | ±0.37     | ±0.40 |
|                  | (9)                                                    | (5)                                                    | (6)                                                            | (13)      | (21)  |
|                  | ±0.20                                                  | ±0.30                                                  | ±0.19                                                          | ±0.18     | ±0.22 |
|                  | (10)                                                   | (6)                                                    | (2)                                                            | (11)      | (22)  |

*The presence of the tooth in one or no patient.

†Capital letters indicate differences between means based on gender, whereas small letters indicate differences between the group means.