

Tissue reaction of the periodontal ligament presented with radiographic width, numerical correlations

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Introduction: The prosthetic and functional value of a tooth depends on the continuous effect of forces applied on the occlusal surface or on the incisal edge of the tooth. Resistance to forces exerted on the tooth, without damage to the periodontal ligament, is performed by adjusting the size of the force versus the duration of its application. This element presents with widening or narrowing of the radiographic width of the periodontal ligament.

Materials and methods: The teeth included in the study are classified as function teeth, with light function and without function depending on the presence of the point of contact and the presence of occlusion. The same teeth are taken in equal amounts and numbers depending on the group of teeth: molar, premolars, canine and incisors. Periodontal ligament width measurements were performed at the neck of the tooth, between the tooth axis and at the apex of each tooth. 204 measurements in total, for each of the groups

Results

Table 1. In this table the average values of the width of the periodontal ligament, are reflected expressed in mm, for medial surfaces and distal surfaces.

Functional teeth	Incisors	Canine teeth	Premolar teeth	Molar teeth
Crown	0.24	0.4	0.375	0.4
Center	0.24	0.35	0.34	0.35
Apex	0.24	0.35	0.3	0.34
Average	0.24	0.37	0.34	0.36

Table 2. Average values for the teeth with function, distributed by area and the distal medial, coronal area, the middle and apical.

Teeth with function	Medial surface	Distal surface
Crown	0.32	0.31
Center	0.3	0.29
Apex	0.28	0.29
Average	0.3	0.296

Table 3. This table reflects the average value of the width of the periodontal ligament, expressed in mm, the medial surfaces and distal surfaces.

Teeth with easy function	Medial surface	Distal surface
Crown	0.16	0.11
Center	0.12	0.11
Apex	0.11	0.11
Average	0.13	0.11

Conclusions: Forces applied to the teeth included in the study were within the limit and not at the limits of trauma from the occlusion, nevertheless there is a difference in apparent greater width in cases of application of forces on the periodontal ligament and radiographic tightness in cases of lack of application of occlusal forces. The tooth with the points of contact and the presence of the antagonist creates the complexity of the discharge of occlusal forces from the occlusal surface according to the longitudinal axis of the tooth in the periodontal ligament and in the absence of indoor reaction of the periodontal ligament the transmissions of forces to the joint are felt.

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