



CORRELATION BETWEEN THE GUM BIOTYPE AND ITS PREDISPOSITION TO RECESSION (Literature review)

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One of the main factors on which the success of dental treatment will depend is the gingival biotype. Different biotypes react differently to inflammation, surgical and restorative treatment. Therefore, it is very important to determine the gum biotype before starting treatment. Special attention should be paid to patients with a thin gum biotype when planning treatment.

The purpose of this article is to consider the characteristics of various gingival biotypes, the prevalence of various forms and to describe the main methods of their identification.

Key words: gum biotype, mucous membrane, gum, gum recession.

Summary. One of the main factors on which the success of dental treatment will depend is the gingival biotype. Different biotypes respond differently to inflammation, surgical and reconstructive treatment to prevent complications due to orthodontic treatment, which helps to achieve predictable and aesthetic results in implantology. To maintain the clinical health of the periodontium, a functionally adequate keratinized zone of the attached gum is necessary. A wide band of dense gums prevents the spread of the inflammatory process. A narrow zone of keratinized gums leads to the development of destructive processes in the periodontium, exposure of the necks of teeth, and the development of recessions. The correlation between the width of the keratinized attached gum and the periodontal biotype has been proven.

Recently, scientific interest has focused on determining the influence of gingival biotypes on the outcome of dental treatment, as well as the potential for gingival recession. Gum recession is a common gum disease of various etiologies, manifested by displacement of its vestibular edge in the apical direction with exposure of the surface of the tooth root. Gingival biotype is a term used to describe the thickness of the gingiva in the vestibular direction. It includes a number of clinical parameters, of which the main ones are: the thickness of the attached gum, the height of the gingival papillae, the shape of the tooth crowns. Knowledge of the



above parameters is an important factor in order to take it into account when diagnosing dental treatment, predicting the likelihood of gum recession, preventing complications due to orthodontic treatment, which helps to achieve predictable and aesthetic results in implantology. To maintain clinical periodontal health, a functionally adequate zone of keratinized attached gingiva is necessary. A wide strip of dense gum prevents the spread of the inflammatory process. A narrow zone of keratinized gums leads to the development of destructive processes in the periodontium, exposure of the necks of teeth, and the development of recessions. A correlation has been proven between the width of the keratinized attached gingiva and the periodontal biotype.

LITERATURE REVIEW

Most authors agree that there are two gum phenotypes (thin and thick). The thin gum biotype is characterized by a thin gum, a pronounced scalloped gingival contour, high interdental papillae, high and narrow crowns of teeth with punctate proximal contacts; the thickness of the attached gum is 1 mm. The thick gum biotype is characterized by: a significant thickness of keratinized significant thickness of the keratinized gum (1.5-2 mm), slight curvature of the gingival contour and low short and wide interdental papillae. However, in the works of D.R.Cook et al. (2014); M.Rathee et al. The authors also cite the average gum biotype, interpreting it as an intermediate state between a thin and thick phenotype (the thickness of the attached gum is about 1.5 mm). It is often impossible to attribute the patient's mucous membrane to one or another biotype of the structure, therefore, studies conducted by N.Maria et al. (2015) allowed us to identify another biotype of the gum, called "mixed". The authors characterize it as a combination of several phenotypes. The thin gum biotype is the most difficult, because the collagen content in the tissues is low and the area of the keratinized attached gum is much smaller than with a thick phenotype, which makes the results of surgical intervention unpredictable. According to a number of authors, a thin gum biotype is found in 75% of the population. In the works of R.Shah (2015), K.R.Fischer (2015) the thin biotype occurs in 43-48% of cases, and in 52-57% — the thick phenotype. In the work of A.Joshi et al. (2017), the distribution of gingival biotypes among men and women was studied: for example, 75.8% of men and 16% of women had a thick gum biotype and, respectively, 24.2% of men and 84% of women had a thin biotype.

In addition, studies conducted by M.Cuny-Houchmand et al. show that the thick gum biotype is most often identified on the upper jaw than on the lower (44.87% vs. 32.65%, respectively). The formation of a thin or thick gum biotype in humans



occurs at the time of growth and restructuring of the jaw bones and depends on the mechanical load directed from the teeth to the jaw bones. According to a number of researchers, the thickness of the vestibular cortical plate in the anterior part rarely reaches 1 mm. For this purpose, intraoral tissue scanning and impression scanning are used.

CONCLUSION

Thus, it can be concluded that many researchers have proven a correlation between the gum biotype and its predisposition to recession after surgical and reconstructive procedures. The delicate gum biotype is the most prone to this phenomenon. The correct diagnosis of the periodontal biotype is of great interest for the adoption of surgical treatment tactics and can be a tool for dentists to quantify gum changes at treatment stages.

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